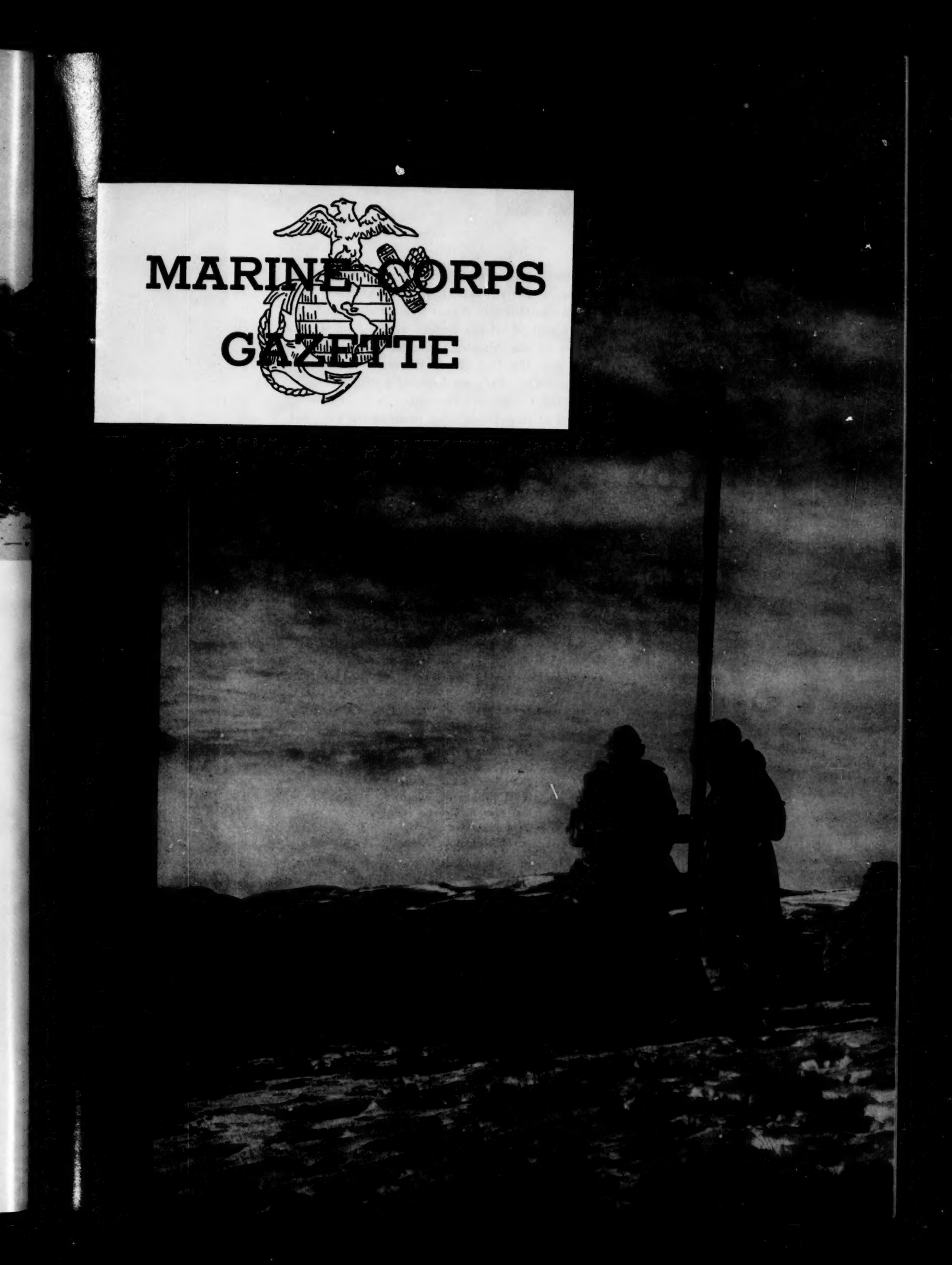
MARINE CORPS GAZETTE



This Month's Cover

THE COVER PHOTO is not, as you might suppose, an artillery survey party puzzling over a reference point for a 105mm battalion in a cold weather operation. Instead it is a pair of oil prospectors working out a plane table survey of the Madden Anticline 80 miles north of Lander near the Owl Creek Mountains in Fremont County, Wyoming. They are locating a drilling site for the Carter Oil Company. The photo is by Collier of Standard Oil of New Jersey. For more on the same subject see *The Oil Snarl* by Col Joseph H. Berry beginning on page 12.

THE MARINE CORPS GAZETTE

Professional Magazine for the United States Marines
JOURNAL OF THE MARINE CORPS ASSOCIATION
Offices: Box 106, Marine Corps Schools, Quantico, Va.
Telephone: Extension 4780

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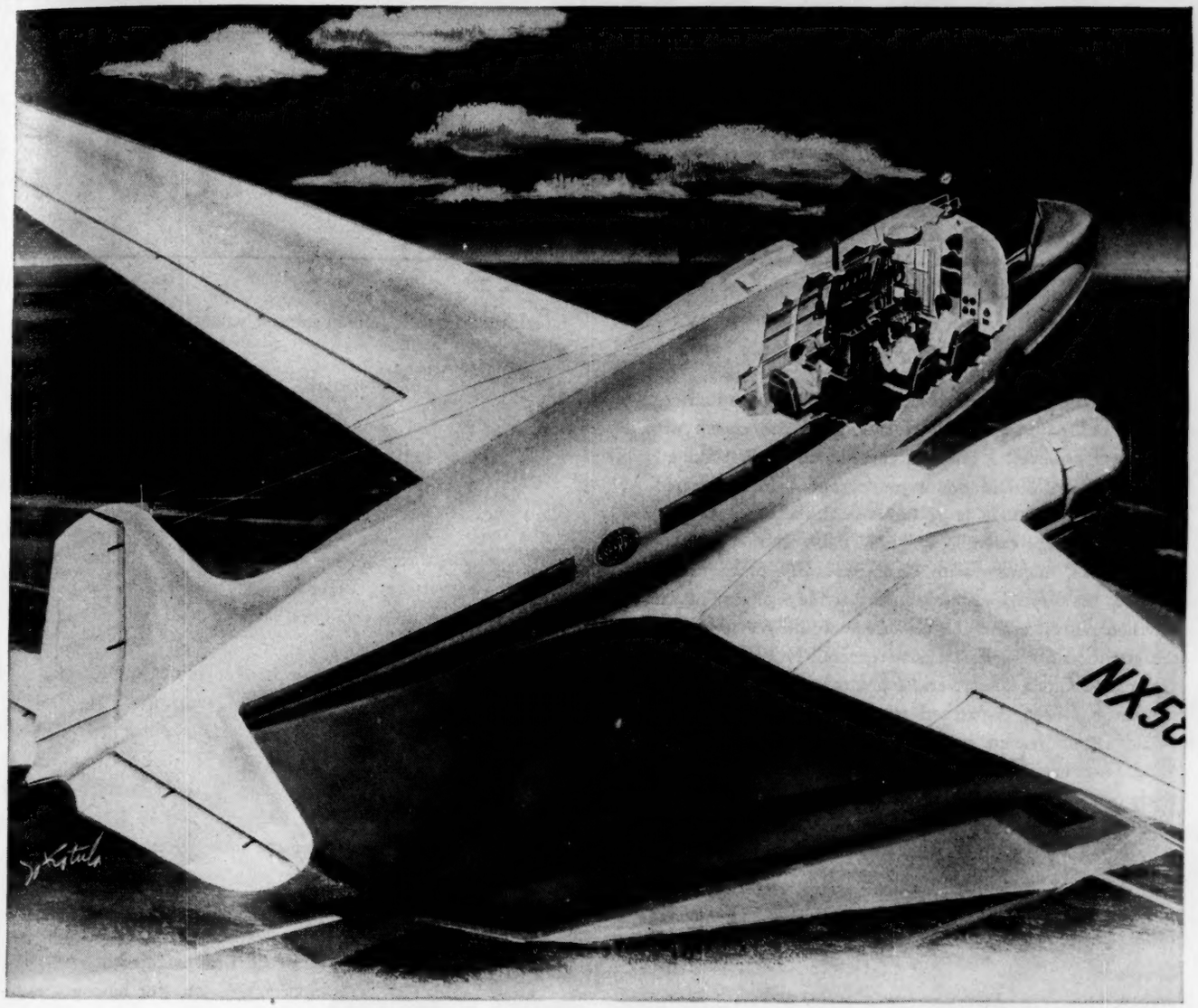
VOLUME 33, NUMBER 2. Published monthly by the Marine Corps Association, Box 106, Marine Corps Schools, Quantico, Va.

Entered as second-class matter at the post office at Quantico, Va., under the act of March 3, 1879. Single copy, 30 cents; subscription rate, $3.00 a year. Subscriptions of all armed forces personnel include membership in the Marine Corps Association. Articles, monographs, studies, and letters of professional interest are invited. Opinions expressed in the GAZETTE do not necessarily reflect the attitude of the Navy Department nor of Marine Corps Headquarters.



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Message Center

Gazette Covers . . .

DEAR SIR:

During the past year I have observed with an admiring eye the various paintings that have adorned the covers of the GAZETTE; however, I question the human interest value that they possess. Would not a photograph, which depicted an event, significant to a large number of the readers, be more appropriate? For example, a "shot" taken of the forthcoming 7th Marines' maneuvers in Alaska would be of particular interest to the West Coast subscribers, while a picture of the 2d Division maneuvers in the Caribbean would certainly demand the attention of the East Coast readers. Not overlooking the Guam and China subscribers, a photograph of the Guam outfit that has been dispatched to augment the China Marines would attract readers in both of those areas. On the other hand, GAZETTE readers in Headquarters Marine Corps, manifestly without partiality as to commands and areas, would probably enjoy the pictorial presentation of the major events throughout the Marine Corps.

By what method would photographs for the cover be obtained? In my opinion it is this simple. The Marine Corps is full of enthusiastic amateur click-clicks who would jump at an opportunity to submit their prize shots for GAZETTE cover consideration. In short, sponsor a monthly "GAZETTE Cover Photographic Contest," open to all marines, the winner of which would receive ten or fifteen dollars and a free copy of the GAZETTE whose cover would feature his photograph.

The above method of obtaining cover photographs stands a good chance of stimulating sales; it would most certainly stimulate the amateur click-clicks whose photographs would in turn increase materially the pictorial stock in the GAZETTE office. However, the most outstanding contribution, to the GAZETTE, I feel, would be the human interest value that its covers would possess.

MAURICE E. ROACH,
Major, USMC.

ED: For the GAZETTE's reaction to Maj Roach's suggestion, see *This Month and Next* on page 7.

Making Like Ducks . . .

DEAR SIR:

In my comparatively short career in the Corps, I have often (practically every time it rains) wondered why in the hell the enlisted marine does not have a *raincoat* as an item of uniform allowance.

Three events of the past week have forced me to take my lethargic pen in hand to bring this question up for discussion:

a. My wife keeps asking me why marines insist on making like the ducks. (And I cannot logically answer her.)
b. The sight of two enlisted men walking from the movie in a pouring rain under an umbrella.
c. The sight of the rest of the movie goers soaking themselves to the skin because:
   1. No umbrella.
   2. No poncho.
   3. No authority to draw or wear a raincoat.

These are *at least* five important reasons for having a raincoat and I list them in order of importance below:

a. Health (dampness makes for sizable sick calls)
b. Comfort
c. Financial (it costs money to have wet soggy uniforms pressed after an encounter with the elements)
d. Pride (men who leave the Post spick and span but who are subsequently caught in a downpour cannot take too much pride in themselves or their outfit when they feel and look like wet hens)
e. Publicity (the GAP must take a dim view of an outfit that does not provide for its men in inclement weather)

My humble solution to this 173 year old question follows:

a. Issue a suitable raincoat as an item of uniform allowance, or
b. Authorize enlisted men to purchase standard raincoats handled through the PX (for uniformity and cost), and
c. Authorize the wearing of such apparel as purchased.

E. J. ROWSE
Major, USMC.

ED.: Essentially Maj Rowse is correct. The raincoat

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Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.

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BELL TELEPHONE SYSTEM

Message Center

continued from page 2

which is issued today is a property item, not clothing. Instead of the mustard color coat which used to be so popular among staff NCOs but unavailable to everyone else, the present coat is green. Its clumsy, Mother Hubbard look makes it suitable for garrison wear but undesirable for liberty. The present allowance for this raincoat is one per five men. Nothing has yet been published, but it is understood that the new Uniform Regulations which will be included in the Revised Marine Corps Manual will authorize a raincoat similar in material, color, and design (but without shoulder straps) to the officers' raincoat to be stocked and sold by Post Exchanges for wear in rainy weather by enlisted men on liberty. Many posts already have tacitly put such a program into effect.

The Gunboat Essex . . .

DEAR SIR:

The Institute Library [Harvard Institute of Geographical Exploration] was recently presented with a small file of the MARINE CORPS GAZETTE, a most valuable acquisition. In acquainting myself with this file, I noted an article entitled *The First Island Commander,* on the back cover of the March 1948 number. It concerns the activities of a small American squadron in Marquesan waters in 1813, under Captain David Porter in the frigate *Essex.*

Only a few days previously I had been reviewing some historical material, including an article from "*Harper's* New Monthly Magazine" for February 1863, entitled *The Gun-Boat Essex,* an account of that vessel's participation in the Mississippi River campaign of the Civil War.

What caught my attention was the fact that this *Essex* was commanded by Commodore William D. Porter, a son of the Capt (later Commodore) David Porter of the earlier *Essex* and I was particularly interested in comparing their respective commands. Since your article quotes the pessimistic and too-accurate prophecy of Capt David, you might also be interested in what Commodore William had to say about his later *Essex.*

The gunboat, unlike her predecessor the frigate, was not built as a naval vessel; she began life as a St. Louis ferry boat, and was plying that trade when purchased by the Government in 1861. To quote from the *Harper's* article:

"How she was made into a gun-boat, capable of such enormous power of resistance and attack, will best appear from Commodore Porter's own words, which are sufficiently amusing. He says:

> 'The commander-in-chief (flag-officer A. H. Foote) gave me only eighteen days to get her together. So in that time I had her off the docks, and in three days was steaming down the Mississippi River. Of course there

was much to be done in that time, and no place to do it. I therefore set up on my own hook; seized three large coal scows, and converted them into a locomotive navy-yard. Of one I made a blacksmith's shop and iron-working establishment in general. Another is my boat-shed and carpenter's establishment; and another my coal depot. When I move up stream I tow them all with me; if down stream, they follow. I sometimes go into action fighting at one end, while carpenters, calkers, blacksmiths, and painters are working at the other. You see, therefore, that the *Essex* has been *built about in spots*. I have my crew divided off into gangs—wood-choppers, coalmen, carpenters, calkers, etc.—and we are a perfect workshop in ourselves.' "

While I realize that the *Essex* data in your article is incidental to the theme, which is, of course, the Marine aspect of the episode, I felt that you might find this supplementary data at least entertaining.

DOROTHY F. MAYHEW
Librarian.

ED.: The second Porter's jerry-built gunboat *Essex* came to a brave if fatal end, just like its predecessor. In an assault against Confederate Fort Henry on the Tennessee, a shell got through to her boiler, blew it up, and scalded half her crew to death.

Attached MGs . . .

DEAR SIR:

I have been a subscriber to the GAZETTE for over a year and think it is a swell magazine. I have just finished the December issue and find it very interesting. I especially liked the article about the pack, *A New Look for Individual Equipment*. I think this style pack would be a great improvement on the present issued pack. I read Capt Sexton's article on the employment of machine guns with great interest. I am only a lowly peon in the Corps but I saw the machine guns used with very good results when the platoon had a section of machine guns attached. In several instances it would have been very hard to get the guns from another location if they had not been with us. Maj Glass asks about the casualties to gun crews. If they had been in company reserve crews would have suffered many more casualties and the infantrymen would also suffered many more casualties.

DALLAS O. BARKDULL
Corporal, USMC.

Administratively Alert . . .

DEAR SIR:

As most officer personnel know, at some time during their professional careers they are likely to be assigned to duty of a nature not as closely associated with the Marine Corps as is most desirable. Efficient performance of duty generally precludes the ability to remain in constant contact with the latest Corps directives, changes in the Marine Corps Manual, Letters of Instruction, and similar administrative media, since individual and personal contact with sources of information usually demands travel to and from such sources, and subsequent absence from assigned duty. Even reasonable proximity cannot be taken advantage of to the degree that is necessary to keep currently informed.

In order to eliminate the enforced severance from immediate information sources, I suggest that a Marine Corps distribution program be initiated whereby, for established initial and subsequent periodic fees, a Marine Corps Manual, Letters of Instruction, Bulletins, etc., and all changes thereto, be made available to individual officers in a manner similar to that maintained for organizational distribution.

I feel reasonably certain that, like myself, there are many other officers who would be professionally interested in a plan of this type, possibly based on a membership basis, in order to maintain a current, personal file of all official Marine Corps information, and for the obvious convenience of having such information immediately available for study and references.

JOHN A. CREAMER
Captain, USMC.

WR Future?

DEAR SIR:

We women marines are intensely interested in the future of the Corps — and, naturally, in what can be our part in that future. Never mind our history; what does the Corps want of us now and in the months and years to come?

ELEANOR D. JOHNSON
1stLt, USMCWR

ED.: Frankly, we don't know. How about looking into it, Lieutenant, and telling the GAZETTE readers what you find out?

Down But Not Out . . .

DEAR SIR:

It is my contention that during the training periods of World War II an over indulgent emphasis was placed on the phrases *get down* or *keep down*. I fully understand that it was intended for the men to be automatic in taking cover and concealment while there was nothing physical for them to shoot at or they were undergoing a barrage. It finally developed into a mania with many of the leaders of small commands: sergeants, platoon sergeants and platoon leaders.

The leadership was poor when in the beginning of a fire-fight a man told to move into a better position by his fire-team leader was suddenly screamed at by his squad leader to "Get down." After being hollered and screamed at for months in training it was only natural for the subordinate to hit the deck and, hence do no one including himself any good.. All too often these were the first and last words ordered by a squad leader in a fire fight. He, too, was under the psychological effect of months of pre-combat training in which the

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Message Center

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only constructive criticism of the problems his squad had run through were "You didn't get your men down, Sergeant." I have seen lieutenants after a problem, instead of offering a critique or giving a bit of advice to the squad leaders on the tactical points of an offensive movement, simply reprimand the men for not getting down.

That a man should present as small a target as possible is understandable, learning to hit the deck hard and fast will always be good training for any infantry man. To give the impression that your platoon's only objective is to get through an operation without a casualty is where the trouble begins.

Although it was unconscious thinking, this over-worked training theory gradually developed into a mother's fear for the safety of her children. The attitude that somebody would erase the obstacle in front of you; "Maybe the company on the right, perhaps the platoon on the left, but certainly I must not expose my men to this," remember "Keep down."

I will not cite instances for certainly many have seen this miscarriage of safety that can easily put a unit in a very foolish and unsafe position. Surely enough it has been written on "Cover and Concealment" to make me feel that some sane ideas on how to teach the subject without the purpose defeating itself should be welcome to the pages of the GAZETTE.

DONALD P. BLANDFORD
Corporal, USMC.

The Marine Corps Gazette

PROFESSIONAL MAGAZINE FOR THE UNITED STATES MARINES

FEBRUARY 1949

CONTENTS

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This Month and Next

In *Message Center* this month, there appears a letter from Maj Maurice E. Roach. Briefly, the suggestion concerns the GAZETTE's cover: the Major feels that the covers would be more interesting if they were devoted to up-to-date photographs of Marines doing significant things in various parts of the world.

The first part of Maj Roach's suggestion is not exactly new to this staff. We have felt keenly that our covers often lack timeliness, and that they have sometimes been very old stuff indeed. It has been a problem, however, that we have not been able to solve. Having no photographer attached to the staff (and not having the means to send him anyplace, even if we had one), we have been forced to rely upon other people for the photographs we use — our pictures come from the Marine Corps, Navy, and Army, from the photographic services of the various Marine posts and organizations, and, infrequently, from commercial agencies. With this sort of set-up, it has rarely been possible to obtain exclusive photographs, or even *timely* photographs, to use on the cover.

But the second part of Maj Roach's suggestion may very well be the answer to our problem. In any case, it's certainly worth a try.

So, beginning now, we cordially invite camera enthusiasts to submit photographs for the GAZETTE's cover. These photographs should be timely and they should have an obvious Marine slant. They should be so composed that the vertical axis is the longer one, and so that the regular placement of our banner, or title box, will not cover up important details. We prefer 8 by 10 glossy prints, clear and unscratched, but will consider any size photo. The negative should accompany the print in all cases. Photographs not used will be returned.

For photographs we can use on the cover, we will pay $25. The photographer should include complete captions covering time, place, unit, names of persons in the scene, and a brief description of surrounding circumstances.

Because the GAZETTE cannot pay for work accomplished in line of duty, we will not be able to buy "official" photographs; however, we can use them and will be glad to get them.

A HELLUVA Engineer

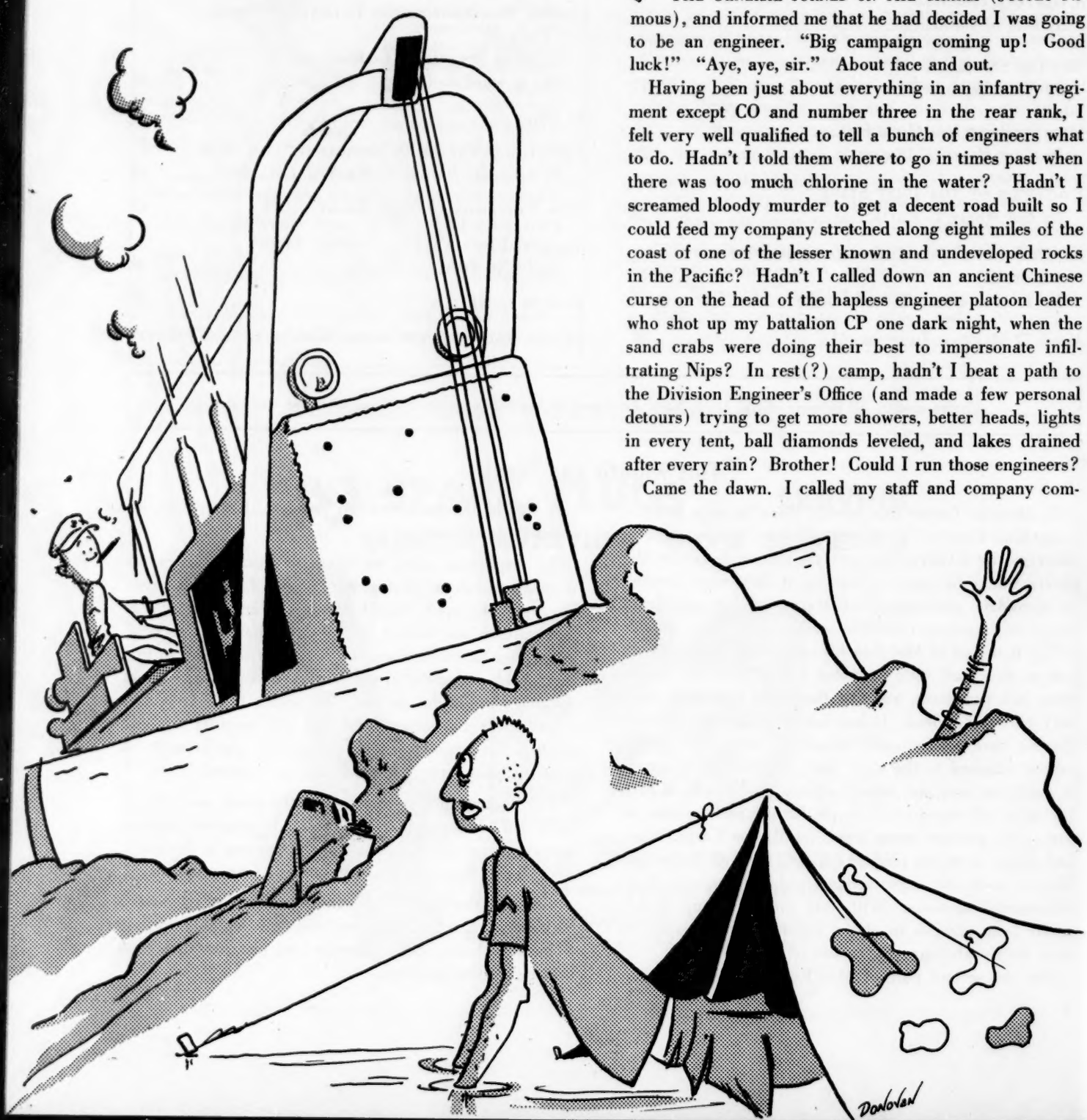
By One of Them

Illustrated by Maj James A. Donovan, Jr

THE GENERAL TURNED ON THE CHARM (JUSTLY FAMOUS), and informed me that he had decided I was going to be an engineer. "Big campaign coming up! Good luck!" "Aye, aye, sir." About face and out.

Having been just about everything in an infantry regiment except CO and number three in the rear rank, I felt very well qualified to tell a bunch of engineers what to do. Hadn't I told them where to go in times past when there was too much chlorine in the water? Hadn't I screamed bloody murder to get a decent road built so I could feed my company stretched along eight miles of the coast of one of the lesser known and undeveloped rocks in the Pacific? Hadn't I called down an ancient Chinese curse on the head of the hapless engineer platoon leader who shot up my battalion CP one dark night, when the sand crabs were doing their best to impersonate infiltrating Nips? In rest(?) camp, hadn't I beat a path to the Division Engineer's Office (and made a few personal detours) trying to get more showers, better heads, lights in every tent, ball diamonds leveled, and lakes drained after every rain? Brother! Could I run those engineers?

Came the dawn. I called my staff and company com-



manders together and asked to be briefed on the situation. Lesson one about engineers—there are never enough of them. Enough! Didn't we have attached a separate Engineer Battalion and a CB Battalion? With fingers pointing at me the Division Training Order was quoted. (I was a fugitive G-3) "Only one company of each battalion to be used on camp work, the others to be given training for the forthcoming operation." That still left three companies but look at what had to be done. Furnish purified water to the division at the rate of 375,000 to 450,000 gallons a day. Keep all generators and wiring in operating condition. Keep the camp out of the mud when it rained, which was daily. Keep access roads to various parts of the camp and to training areas in passable condition. (Ever try to compact a road used by tanks in wet weather?) Build and maintain, beyond the ability of other units to do so, athletic facilities, parade grounds, etc. Take care of the 1,000 and 1 daily emergencies which ranged from putting a new flagpole over the General's quarters to repairing the Red Cross doughnut machine, to preparing a swimming pool for a division aquacade.

A look at the training schedule and at the job-orders passed on from G-4 soon convinced me that it was high time to start passing the buck up. I set up a Division Engineer's Office separate from the headquarters of the Engineer Battalion and drew up a priority list of work projects. If a work order came in beyond our immediate capacity to accomplish, the Chief of Staff was asked to decide what priority it should have. That made a lot of difference when some regimental or battalion commander came complaining about one of his pet projects.

That didn't solve the problem of the good friend (I don't believe an engineer has any enemies—to his face, at least) who came around and wanted this or that "little job" done. Now those people all had legitimate projects which would contribute to the health and comfort of the troops. I never had anyone ask for work to be done for his own personal benefit. These "little jobs" wouldn't have a prayer of getting put on the Division priority list, but they really should be done—both for their morale value and to build up good will for the engineers. Well, you could train a bulldozer operator by having him clear a bit of God's jungle, and you could train a grader operator by having him smooth and grade a ball-field. An occasional bridge could be constructed as a training project, and blasting could always be done in the name of experience.

What about engineering? Could an unregenerated infantryman become an engineer? You are right. The answer is, "No, not overnight." Luckily I had some engineers, and good ones, in the battalion. By listening to them and being guided by them in all technical matters, we managed to turn out some pretty good projects. I soon learned that the amateur can cause a lot of trouble.

As stated earlier, we were blessed with an over abundance of rain. Now no man likes to have a puddle of water standing outside his tent, so what is more natural than to dig a little ditch to drain the water away? Multiply this tendency by platoons, companies and battalions, and you can develop some lakes that could be stocked with fish and used for recreational purposes. Instead people invariably wanted to play baseball and hold parades where the lakes existed. "Drain them" would be the word. We drained two lakes that required the digging of ditches up to 20 feet deep and up to ¼ mile long. That required the efforts of men and equipment for weeks —men and equipment that could have been more profitably used elsewhere.

I learned a lot of other things. Take the "armored bulldozer" (you can keep it, too). On the last firing run in which the division had been involved, armored bulldozers had been used ahead of tanks and even ahead of infan-

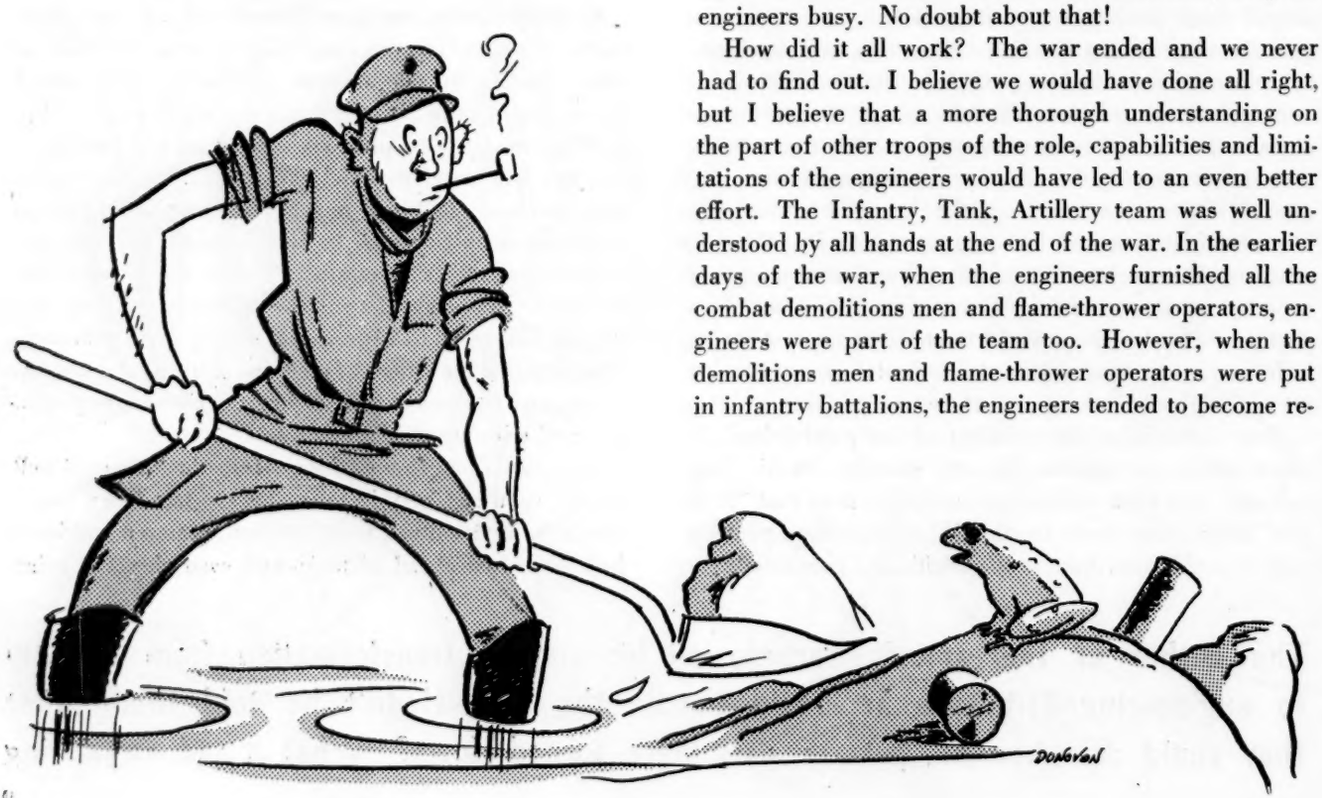
The author of this amusing article on his sudden transformation from infantry to engineering felt sure he could handle the job. Hadn't he told them what they could do when his pet requests were turned down? What a sad awakening

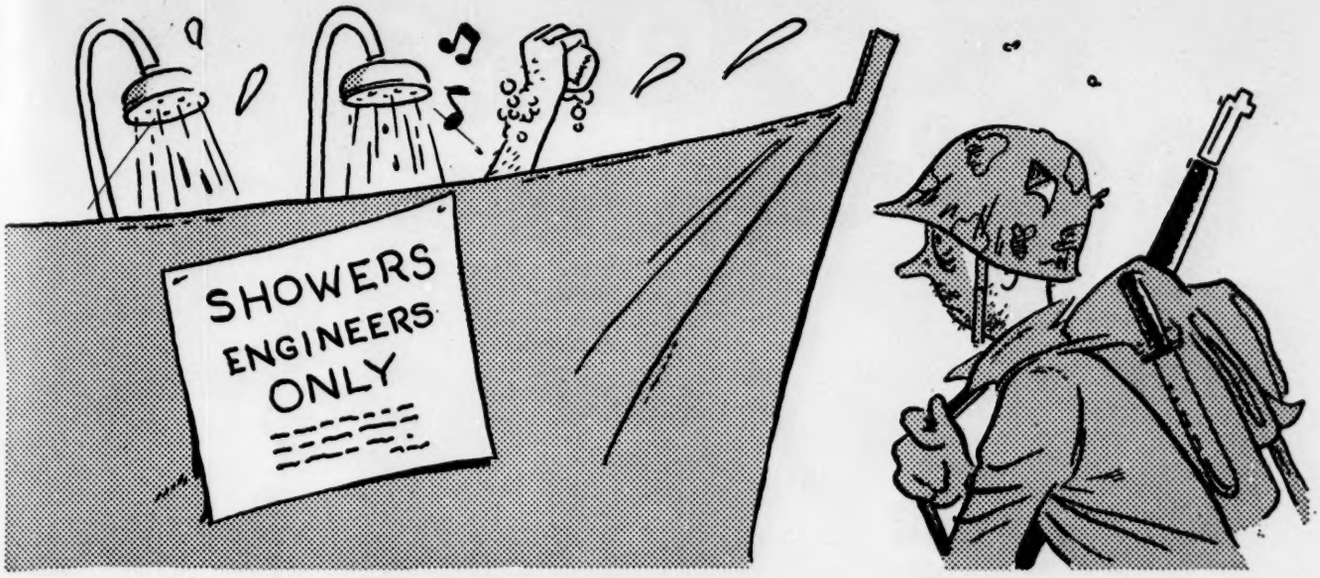
try, with the result that the operators became 100 per cent casualties. Not to mention the waste of good bulldozers of which we never had enough. The answer, of course, is to put a blade on the front of a tank for such rough work as clearing mines. That was done toward the end of the war; but pity the poor engineer who, protected by ¼ to ⅜ of an inch of sheet steel, rode his snorting bulldozer into the face of antitank guns. A helluva way to earn a living.

THE TECHNIQUES OF ENGINEERING didn't give me the worst headache though. In our landing team and combat team organization for the coming operation everyone wanted as many engineers as he could get, and he didn't want them to revert to division control upon landing. Commanders argued with a great deal of heat and some logic that when they ran into a demolished bridge or torn-up road in their advance through the mountains of our objective, a great delay would occur if they had to call upon Division for engineer assistance. The answer to that one is that such occurrences don't happen every day and wouldn't require the efforts of, say, an entire attached engineer company. The natural result would be that engineers would be put to work at jobs which could be accomplished as well by others who did not have the engineers' specialized training and equipment. As an infantry battalion commander I had been bathed in sweat and tears over the problem of supplying the fighting men. The attachment of a platoon of engineers (or men from Mars for that matter) would have unbowed my back and made my S-4 lose the hunted look he so often wore.

Still, within the division, there never are enough engineers to do all of the jobs which can be well done alone by troops trained and equipped for that work. What about the two attached battalions? A benevolent Corps was coming in behind the division with two ships loaded with engineer supplies and great plans for developing airfields and a base. Guess what was going to happen to the attached battalions about D+2! The answer had to be the same within the division—all engineer troops revert to division control as soon as the landing had been successfully effected. If a landing team or combat team got so far separated from the rest of the division as to be beyond the range of effective engineer support, then a sufficient number of engineer troops would have to be attached to it. As for troops not involved in the actual support of the infantry battalions and regiment, they would have to be developing the division's rear area so that it could support the forward elements. Roads and water supply would probably take priority. The existence of the regiments would be largely dependent on adequate roads over which they could be supplied with food, water and ammunition. The development of properly protected dump areas for the storage of supplies would also be a "No 1" project. Supplies not protected from the elements and enemy action have a way of becoming useless. Our division's mission would eventually become defensive, so the engineers would be needed to assist in the construction of defensive works. Division could certainly keep the engineers busy. No doubt about that!

How did it all work? The war ended and we never had to find out. I believe we would have done all right, but I believe that a more thorough understanding on the part of other troops of the role, capabilities and limitations of the engineers would have led to an even better effort. The Infantry, Tank, Artillery team was well understood by all hands at the end of the war. In the earlier days of the war, when the engineers furnished all the combat demolitions men and flame-thrower operators, engineers were part of the team too. However, when the demolitions men and flame-thrower operators were put in infantry battalions, the engineers tended to become re-





They're back there someplace, but what in hell do they do? Their support isn't always obvious.

garded in the same light as Shore Parties. "They're back there some place, but what in hell do they do?"

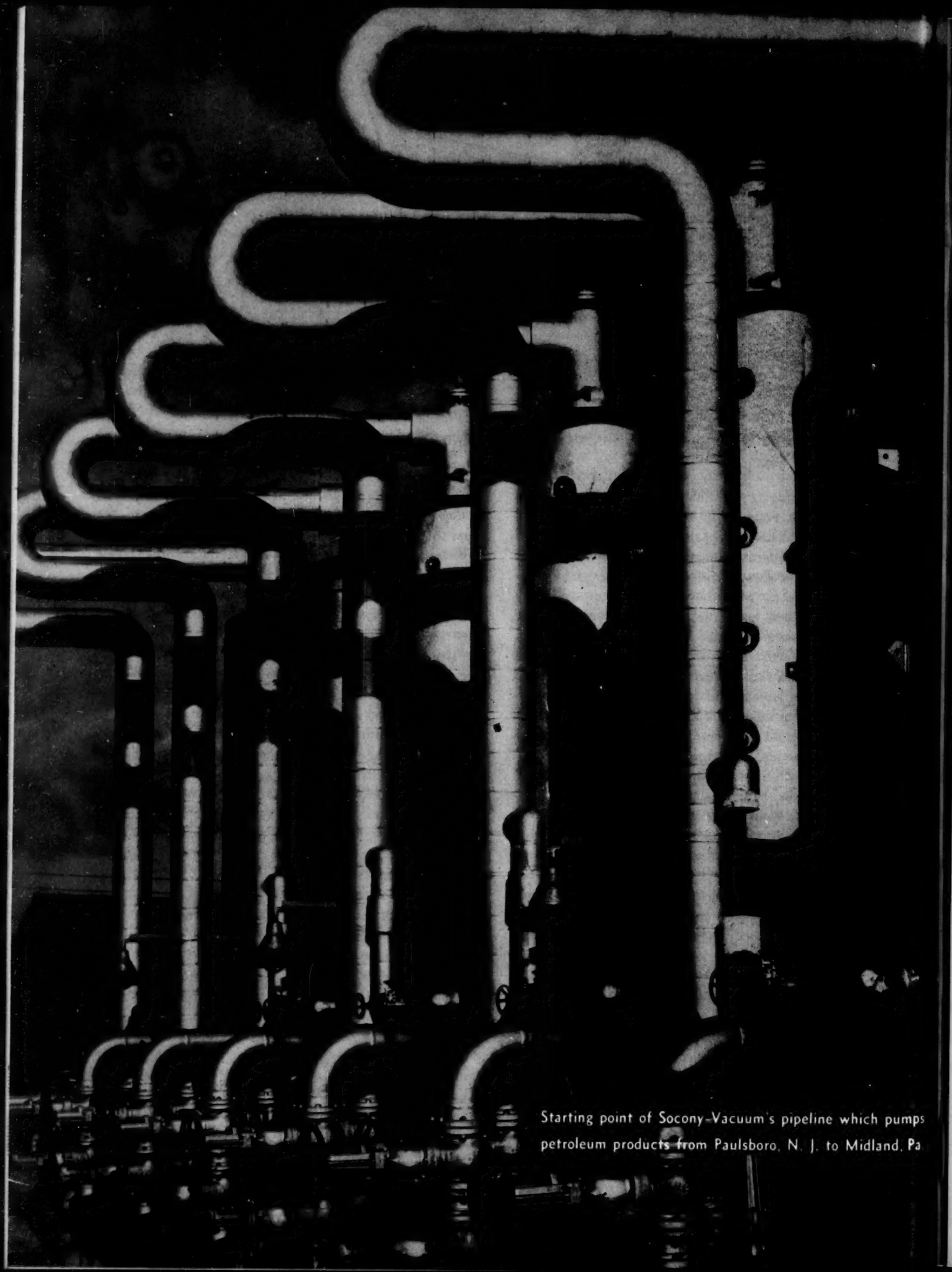
What can the other troops expect of the engineers? Under combat conditions engineer support isn't always obvious but it is always present. Please remember that with the engineers, as with the supporting arms, you should not ask them to do a job which you can do as well. The engineers are always glad to furnish technical advice, but pick and shovel work is not primarily their province. If your pick and shovel excavation runs into too much rock for you to handle, call for help from the engineers by all means, but don't look on them as labor troops. If every officer could see an engineer company with its equipment in action, they would easily be convinced that one engineer with a bulldozer, for example, is more effective at some jobs than a platoon of men with hand tools would be. Make your requests so that the work potential of the trained man and his equipment are best utilized.

In camp, all of the utilities are furnished by the engineers, as well as all heavy construction and maintenance. In spite of popular opinion to the contrary, the engineers don't fix themselves up first at the expense of everyone else. It was only after the war ended that my battalion was able to construct a recreation hall! We were too much in demand for other things to do much work for ourselves.

ONE OF THE MOST CALLING DEMANDS on us came from those good providers who by hook or crook had gotten non-standard generators, ice machines, ice cream machines and other devices designed to increase the comforts of living. While doing the Army, Navy or Japanese out of those additions to comfort, no one thought to get an adequate supply of spare parts. I finally had two men doing nothing but scouring our particular island for spare parts for equipment which had broken down and which the Marine Corps didn't consider standard. During the occupation of China and Japan, the situation became even worse. When you trade that enemy machine gun for a generator, please throw in a couple of rifles and get enough spare parts to last for a while.

The General, when he made me an engineer, said that he didn't want to be told that a job was impossible, he could judge that for himself. (He could too.) I believe that we did every job that was given us to do and a few others that we thought should be done. I believe that the division had adequate engineer support in training and in camp, and that the support in combat would have been satisfactory. I know that I had to argue against the use of engineers for many jobs that others requested. A few short months before, I would have requested that those identical jobs be done. Only an understanding of the capabilities and limitations of engineers can convince a commander of other troops that he cannot expect to have engineers dig his latrines when they should be building the road over which he will receive his chow. I'm all for more understanding of the role of others. I know that sympathy on the part of others for my problems gained a more sympathetic reception to requests for the engineers to do the "little jobs."

I still have a 1542 (Infantry Commander) primary SSN, but I got to see both sides of the problem. My feet may be calloused, but my ears are sort of hairy, too. And like the General said that day, "If we are going to move and fight, we just have to have the engineers in there working at the jobs they can do best." USMC



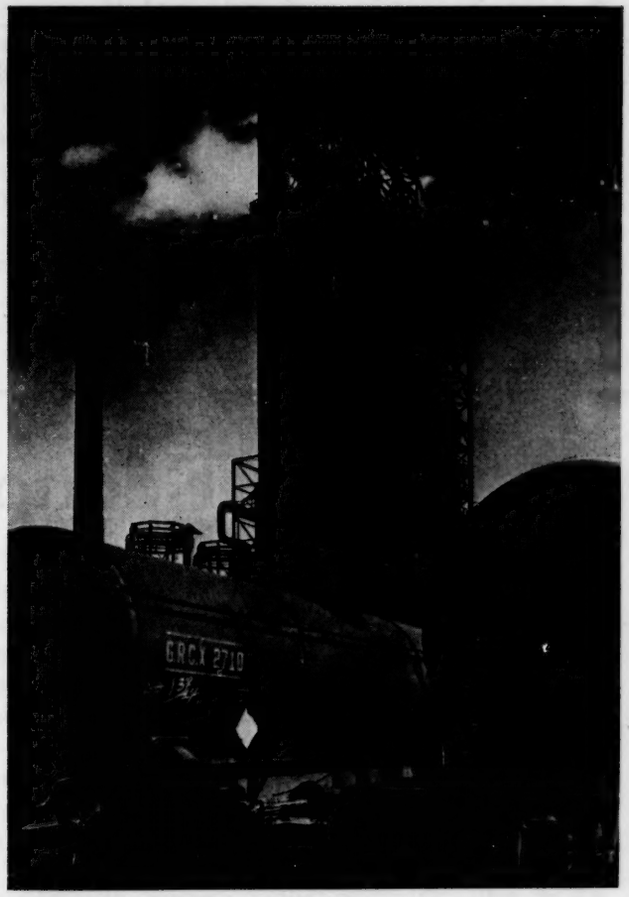
Starting point of Socony-Vacuum's pipeline which pumps petroleum products from Paulsboro, N. J. to Midland, Pa

The Oil Snarl

By Col Joseph H. Berry

HAVE YOU EVER LOOKED INTO A CAN OF FISH worms? Have you ever poked a stick into a mass of tightly entwined fish bait? Not only does the agitation of a worm body cause some unexpected part of the mass to wiggle, it also sets up a series of wiggles in other worms adjacent to it. This could probably be given a high sounding title, such as, "The Reaction of *Annelida* to Exterior Stimuli." If you have ever had such an experience, or can imagine it, you have perhaps the best possible analogy to the present perplexity of the oil situation. To carry this analogy along a step further, the poke you give to one of the members of the oil fraternity causes him to react in his own characteristic fashion and by his reaction he calls forth a characteristic and different reaction from the remainder of that fraternity. Those interested in oil in the United States can be briefly listed as civilians, politicians, servicemen, and oilmen. The latter can be divided into two separate and distinct categories: the large, prosperous, integrated or major oil concern and the small, prosperous, single activity or independent oil concern. Each type will react to stimuli in its own characteristic fashion, and by such reaction, create the impression it desires to create.

The civilian, the John and Jane Doe, cannot understand why this great nation does not produce enough oil so that his home is warm in winter, his car mobile in summer. He doesn't ask for much; a couple of hundred gallons of fuel oil per month in winter, 40 or 50 gallons of gasoline per month in summer. It isn't much, he thinks, and he can't see why he doesn't get it. The politician, sensitive to the wants of his constituents, knows that we export oil. Why, he wants to know, do we export oil when the farmers cannot drive their cars and tractors? He "views with alarm" and demands legislation to remedy the situation. The Armed Forces, graciously cutting back their peak war requirements, release oil to others. However, the military planners are cautious and must think in terms of national security. What if another war should come tomorrow? With the advent of greater mechanization of weapons of war and the increased fuel requirements of jet aircraft, could we successfully carry on another war? Where would we get the oil? Secretary of Defense Forrestal lays on the table a requirement of two million barrels per day more than our present consumption as a wartime requirement and inquires, where are we going to get it?



Gulf Oil

Gulf Oil Thermofore Cat Cracker at Port Arthur, Texas. Catalytic cracking greatly increases gasoline yields.

Part I: Despite the size and capacity of our oil industry we are now in an era when the supply of petroleum products available does not meet the demand. This insufficient supply is caused by lack of refinery capacity rather than crude oil

The large oil companies, having extensive holdings overseas, believe in allocations of steel and funds to them, and in non-restrictive tariffs and quotas. The small independents, with small holdings in this country, see foreign oil ruining their business. They clamor for high tariffs and rigid quotas. We all hear that the United States has a proven reserve of oil which, divided by our present daily consumption, indicates that we have only enough oil to last for 15 years. Oil is, indeed, a can of worms!

Just what is the petroleum situation? It is perhaps one of the most difficult questions of the present day to resolve. I am reminded, as I read about petroleum, of the cliche concerning the "unbiased account of the War Between the States." Depending on where you read, whose reports you study, whose graphs and charts you depend upon, and the desires and purposes behind their preparation, you can find many answers. Behind this confused mass of material there appear, however, two well defined aspects. These are the *economic* and the *strategic* aspects of the petroleum situation in the world today.

The Economic Aspects

CRUDE PETROLEUM, as such, first saw the light of day in this country in 1859 when the first producing well was brought in at Titusville, Pennsylvania. From that day to this the effect of that first producer has been to bring about a great change in the economy of this country. Coupled with this, of course, has been the development of methods to use petroleum products; kerosene stoves and lamps, stationary, marine, auto and aircraft engines, steam (from oil) locomotives and diesel engines for railroads, and the conversion of ship's boilers and bunkers to consumers of oil instead of coal.

An interesting study of the development of crude oil as a source of energy is presented in the following table adapted for this discussion.[1]

SOURCES OF ENERGY FOR SELECTED YEARS 1899-1944

Year	Coal Per Cent	Crude Oil Per Cent	Natural Gas Per Cent	Water Power Per Cent
1899	89.1	4.5	3.2	3.2
1909	85.1	7.7	3.6	3.6
1913	84.2	8.9	3.5	3.4
1918	83.3	10.9	3.6	3.2
1923	72.2	20.4	4.5	2.9
1929	63.0	25.7	8.1	3.2
1939	56.7	29.6	10.2	3.5
1937	53.6	32.2	10.6	3.6
1938	49.1	35.1	11.7	4.1
1939	51.0	33.8	11.6	3.6
1940	52.7	32.7	11.2	3.4
1941	54.2	31.5	10.9	3.4
1942	56.9	28.2	11.1	3.8
1943	54.8	29.2	11.8	4.2
1944	53.5	30.7	11.9	3.9

It must be remembered that the quantity of coal produced has steadily increased during these years, as for example: 1934, 416,536,000 tons; 1944, 683,277,000 tons. The decline in the percentage of energy produced by coal therefore does not mean less coal consumed to produce energy but rather more total energy produced and that coal, percentage wise, produced less of it. The increase in the percentage of energy produced by crude oil and natural gas indicates in a general way both the conversion of energy producers to oil and gas consumption and to the development of new means of using oil and gas to produce energy.

During the prewar years the consumption of petroleum end products was less than both crude oil production and refinery capacity. This situation was brought about by a condition in the industry which, for a time, threatened the whole price structure of that industry. It is a general rule of law that a landowner, in addition to his rights to the use of the "top-soil," also has rights to the products of the "sub-soil." In addition to this general rule, a Pennsylvania judge ruled that the products of the sub-soil, like wild game, belonged to the person reducing them to possession. This ruling is called the "rule of capture" and means, in simple terms, this: If you and I are sitting over the same oil pool, you on your land and I on mine, we both can pump from that pool. The oil belongs to the one who gets it to the surface. The results of such a ruling are obvious. Being greedy I sink all the wells I can afford and pump like mad. I get all the oil from under my property, your oil drains in, and I get that too.

Following such a practice inevitably leads to overproduction, over-supply, and reduced prices. The oil industry, by proper organization and control, set up a self-regulating system for proration of production of crude oil. However, even with self-regulation we had, in 1939, an excess of refinery capacity of 1.43 million barrels per day above the actual refinery production per day. It was with this one million barrels per day cushion that we entered the war. It was extremely fortunate that we possessed this cushion for it was with it that two-thirds of the demands of the armed services were met. Even so, civilian rationing was required to relieve the pressure on oil so that the many new industrial

[1]Dewhurst and Assoc., *America's Needs and Resources*, The Twentieth Century Fund, N. Y., 1947.

plants built could be energized by petroleum products. The oil industry, having this million barrel per day of excess refinery capacity, foresaw no conditions, before the war, which indicated a need for further expansion. They therefore entered the war and fought it with practically no over-all increase in capacity. During the war materials needed to expand were not forthcoming, nor has there been much since. The overall refinery capacity has increased less than ten per cent since the war ended.

On the day after V-J Day, rationing of petroleum products was ended. With the cancellation of war contracts, other cut-backs in production and the reduction of service requirements for oil, it appeared that this refinery capacity would be sufficient. However, between 1945 and 1948 the civilian demand for oil and gasoline increased 50 per cent and we as a nation are now consuming 12 per cent more petroleum products than we did in 1945, the peak war year! This increase in demand has, of course, increased the price. Fuel oil for house heating has increased from a rationed and controlled retail price of 7.5-8.5 cents to around 13 cents per gallon (East Coast prices). Gasoline, freed from war-time rationing and a fixed standard octane, has increased both in price and quality. Supply of refined products cannot quite meet the demand, however, so there is a shortage in some parts of the country. But this shortage is not of crude oil reserves or crude oil production, it is a shortage caused primarily by a *lack of sufficient refinery capacity* and therein lies the most important aspect from a strategic point of view.

IT WAS MENTIONED EARLIER that by dividing our yearly consumption of oil into the total proved reserves we find that we have enough oil to last for only 15 years. This represents another bit of confusion. On the assumption that no new oil is discovered and that existing fields do not prove out better than present estimates, it would be impossible to draw off this reserve in 15 years. Oil in the ground is subject to many variables and by and large these variables tend to limit the possible extraction to about 40 per cent of the oil present. In fact, our proved reserves are based on just that percentage of the oil determined by *drilled* holes. Further, this extraction of the 40 per cent is a diminishing return. Figure 1 shows schematically (by curve of production of the total oil in place against time) how this occurs. This simply means that if 20 per cent of the oil recoverable can be withdrawn in six months it may take an additional three and a half years to get the other 20 per cent. Unfortunately, as a general rule, it also means that the cost of the second 20 per cent is more than the first. It has been estimated, on this basis of reasoning, that it might take 40 years to get 15 years of oil out of the ground.

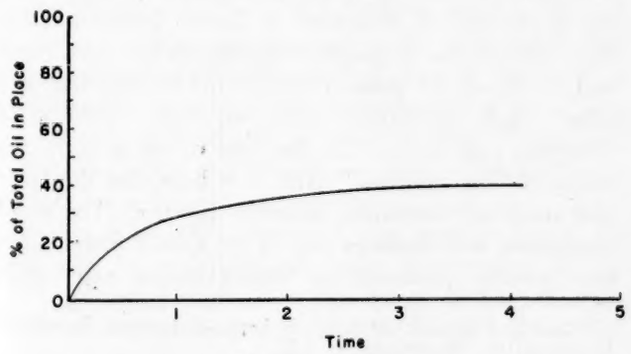
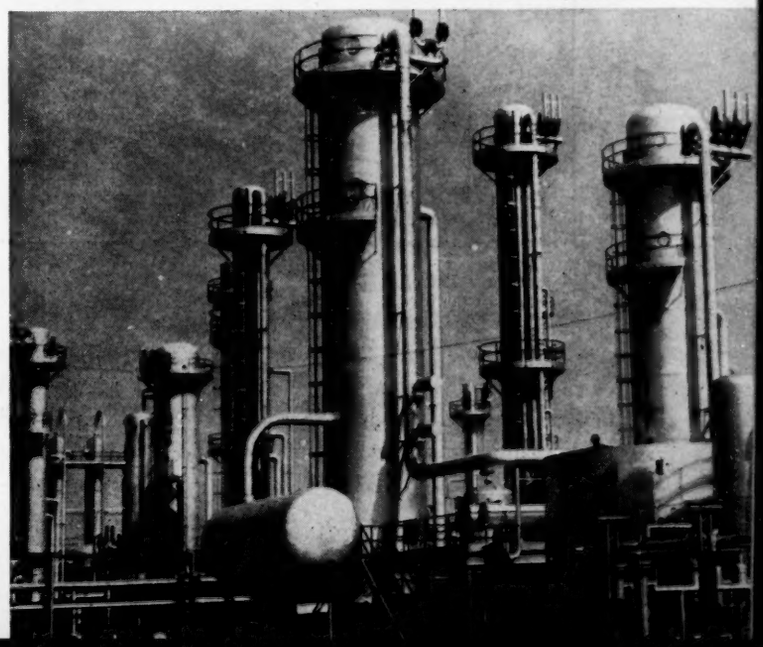
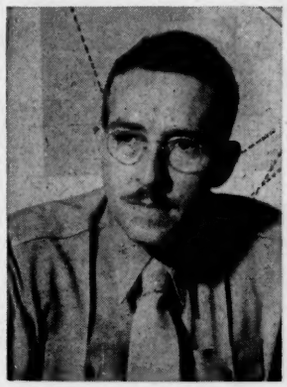


Figure 1

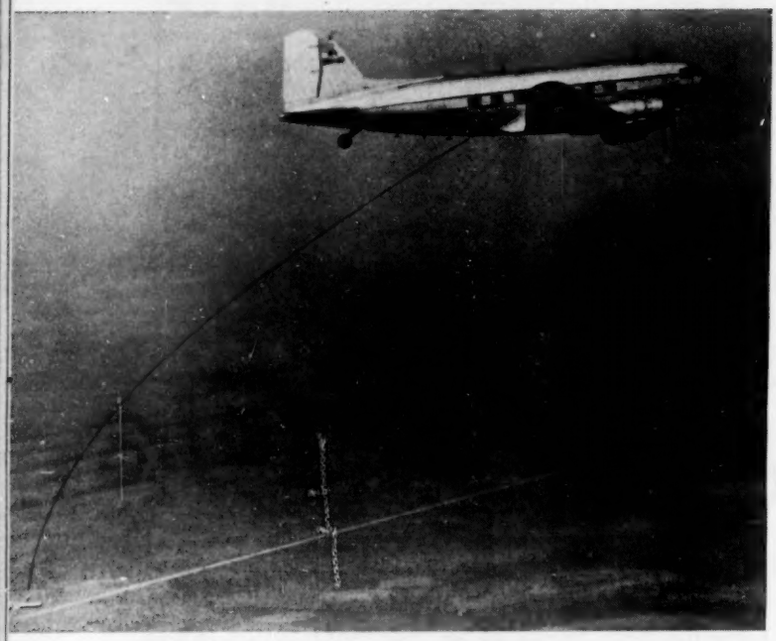
If this happens, still under our previous assumption,

Oil extraction is increased by recycling plants which force gases back into ground for repressuring of wells.
Bureau of Mines





The Oil Snarl is Col Joseph H. Berry's first contribution to the GAZETTE in recent years. A native of Portland, Oregon, he attended Oregon State College, received his Bachelor of Science degree in Mining Engineering in 1929 and attended Basic School the following year. During his 19 years in the Marine Corps he has served with aviation units, infantry, barracks detachments, and at sea, and with the Nicaraguan Guardia National. After completing a course of instruction at the Infantry School, Fort Benning, Ga., he returned to the Basic School as an instructor. In the Iwo Jima campaign as a member of the 4th Marine Division, Col Berry is now at the Naval War College, Newport, R. I.



Gulf Oil

Gulf uses flying magnetometer for high speed magnetic contour mapping, in order to guide oil prospectors.

then our oil production will not be sufficient for our demand and we must get more oil. This can be accomplished in two ways, either by foreign imports or by the development of synthetics. Naturally a decline in the supply of oil will cause a rise in price. This increase in price will cause some users to convert to other fuels (i.e., house heating to coal) but there will remain some users who must stick to this type of fuel. As this price increase grows the incentive to develop synthetics become stronger. At the present moment it is estimated that the cheapest synthetic fuels (other than from natural gas) are about three times as expensive to produce as those from petroleum. However, as this line of endeavor is explored and experimented with the price will come down.

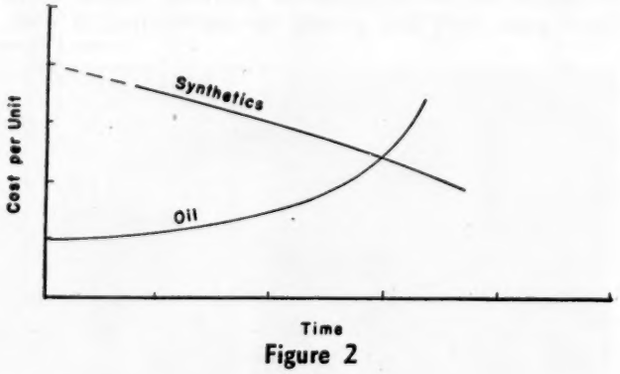


Figure 2

As shown in Figure 2, at some time and point these price lines will cross. At the point of crossing, and beyond, synthetic production will begin to fill more and more of our liquid fuel needs. But, the cost to the consumer will be considerably higher than we are now paying for petroleum products. Then as the price of both natural oil and synthetics are high, foreign oil imports will be knocking on our doors. To keep them out we will gradually have to increase our tariffs; to compete with them we will have to subsidize our synthetic industry. From the over-all point of view neither of these courses are economically sound nor do they reflect the present policies of our Government. So much for the assumptions.

It is, of course, true that our proved reserves have shown a steady increase in spite of our prodigious use. The following table shows this trend. Indicated are the amounts of crude oil that may be extracted by present methods from fields completely developed or sufficiently explored to permit reasonably accurate calculations. The change in reserves during any year represents total new discoveries, extensions and revisions of estimates for previous years, minus production.

ESTIMATES OF PROVED RESERVES IN UNITED STATES, 1940-1948

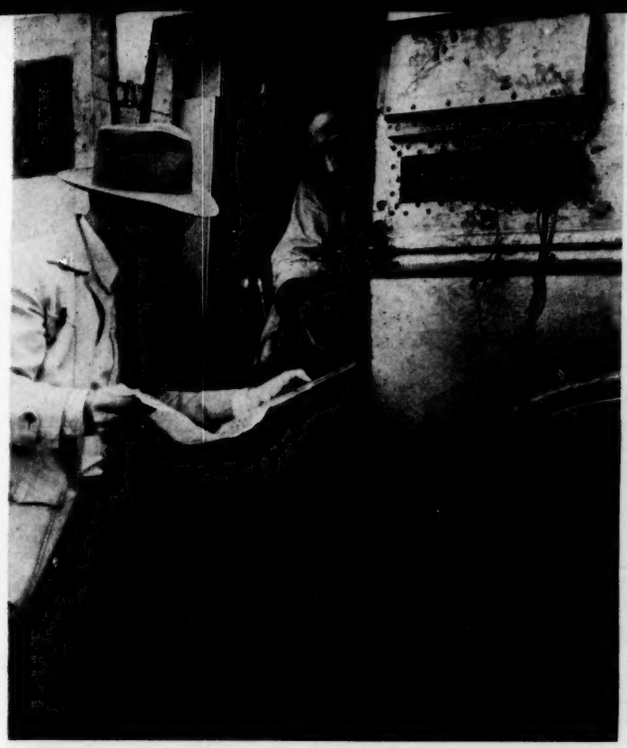
(millions of barrels)

1940	18,483
1941	19,025
1942	19,589
1943	20,083
1944	20,064
1945	20,453
1946	20,827[2]
1947	21,345
1948	23,737[3]

This should not be interpreted to mean that "the more we use the more we will have." What it means is that we have been discovering new oil pools, and proving out old ones at greater capacity than anticipated, faster than we are pumping the oil from the ground. There is, naturally, a limit to the amount of oil under our land. The estimation of that amount of oil is anyone's guess but the general consensus among oil men and geologists appears to be that "the easiest half" has been found.

The process of discovering new oil has undergone a great improvement since 1859. Originally it was discovered by prospecting methods, i.e., visible oil seepage at the surface. From this it was but a short step to the "divining rod" or "the wish-bone of a witch." It took some time to call upon the professional geologist and his knowledge of structures to assist; however, since that time the rise of geophysical methods has been rapid and much of the guess work removed. But, like any other highly specialized endeavor, these methods of discovery cost money. In the case of oil it is in the realm of "big business." And it is here that the large and small oil companies differ in practice. The small companies, with holdings only in the United States, want our industry protected by import quotas and tariffs

[2] *Minerals Yearbook*, 1945, U. S. Dept. of Interior, Bureau of Mines, G.P.O., Washington, p. 1050.
[3] The Oil and Gas Journal issue of 28 January, 1948.



Socony-Vacuum

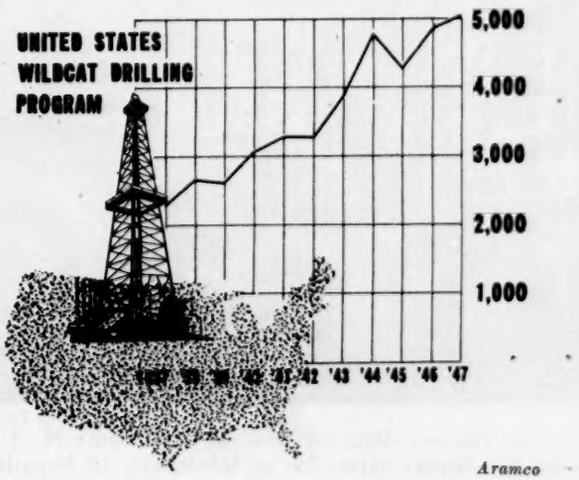
Seismic crew chief checks results of underground test explosion. Modern prospecting is based on geophysics.

to further the exploration of the United States for the development of more proved reserves. This line of reasoning, too, has strategic importance. The major companies, on the opposite hand, with oil easy to find and plentiful abroad, want large imports and low tariffs to exploit foreign oil. This, too, has great strategic implications. If we allow unrestricted cheap oil into this country the development of our own reserves will "wither and die" because of lack of incentive. This cheap oil will benefit the consumer, he gets what he wants at the cheapest possible price. It would appear that this would be highly desirable from the standpoint of conservation for if we do not use our oil we "save it." But, it is a far cry from crude oil in the ground to refined fuel in the tank of an airplane and to be sure of it we must keep our oil industry active: exploring, discovering, developing, producing crude oil, through to the refining and on to the ultimate consumer.

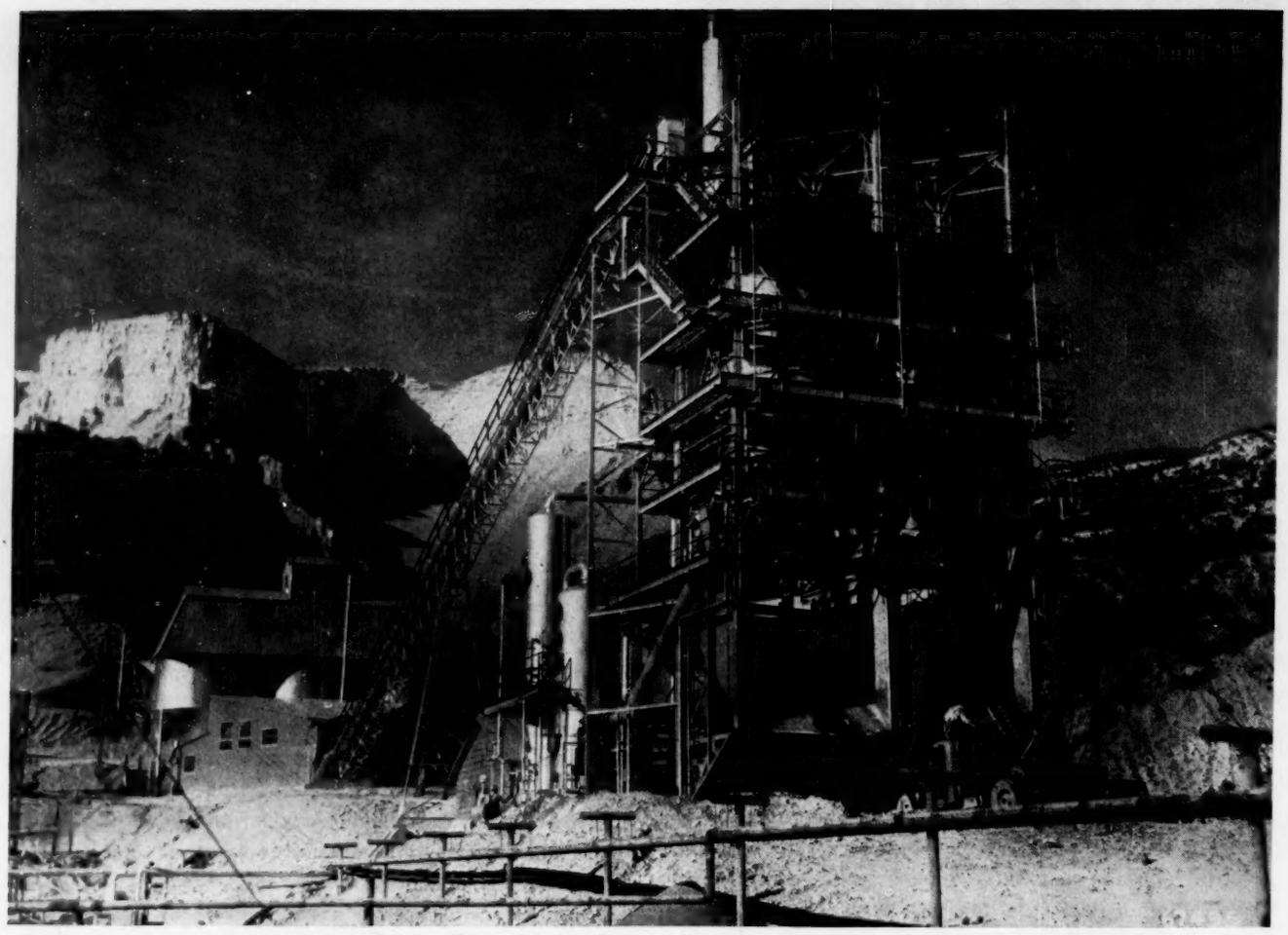
Another side of the economic aspect which deserves some attention is that called "conservation" by the oil industry. It is not conservation in the sense that we are saving some part of our reserves, nor in the sense of reforestation as a conservation measure, but it is "conservation" by elimination of waste in production of end products. Before the discovery of crude oil James Young developed a process of distilling oil from coal ("coal oil") and by 1859, when oil was first produced, the pot stills for coal distillation were in operation. It was only natural, I suppose, to run the crude into the stills and extract therefrom a part of the crude as "coal oil" or, as it was later known, kerosene. However, the more highly volatile parts of the distillation were unusable in lamps and the residual oil was too heavy to burn. These unwanted "by-products" were disposed of by the easiest means. These operations were undertaken in Pennsylvania and it is reported that much of the waste was dumped into rivers. Various inventions subsequent to that time developed uses for these by-products. From the results of studies on the properties of crude oil came the development of fractional distillation. This process, for a typical crude oil, gives a percentage straight-run yield of products somewhat as follows:

Gasoline	22%
Kerosene	10%
Gas Oil	28%
Fuel Oil	40%

This process, from an economic standpoint, was not the boon that it might have been. This is evident when one considers that the table shown above means that for every 22 gallons of gasoline produced, 40 gallons of fuel oil were produced; however, the demand for gasoline and fuel oil was not of that same order. Again supply and demand stepped in and drove down the price of the unwanted by-product. This process is therefore "wasteful" in the "conservation" program of the industry. There were two solutions, both used. One was to develop new uses and users for the by-products; the spectacular rise of home unit oil heaters for fuel oils and space heaters for kerosene are examples. The other solution was to perfect a better cracking process. Refinements on the distillation process gave some flexibility to the percentages of the various products but the most favorable development was that of "catalytic-cracking." This process gives great flexibility and permits "conservation" of the crude supply by allowing the refiner to produce almost at will the product he desires. The most striking examples of this was the production, during the winter of 1947-48, of increased percentages of fuel oil to meet the rigors of a hard winter and the increased percentages of gasoline during the summer of

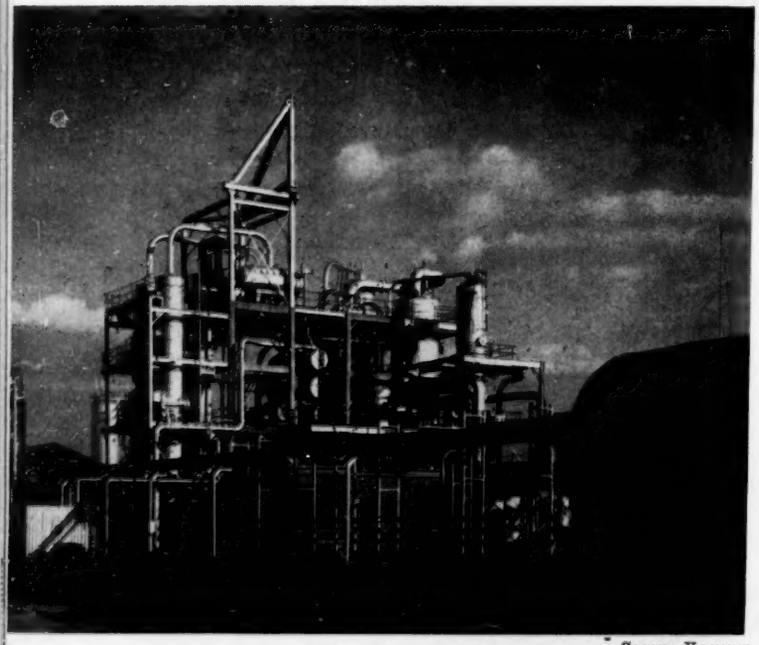


Aramco



Bureau of Mines

A conveyor links the retorts in the foreground with the shale storage bins at the oil-shale demonstration plant near Rifle, Colo. Cliffs in background are part of Navy oil shale reserves.



Socony-Vacuum

Socony-Vacuum Duo-Sol unit at Paulsboro, N. J., is used for solvent extraction of lubricating oil impurities.

1948 to meet high seasonal gasoline demands. With catalytic-cracking the industry has made great strides in utilizing crude oil to the best possible advantage. But, it must be remembered that these "conservation" measures have been achieved in pursuit of the American Dollar and the conservation of natural resources is only incidental. I say this because I have not been able to find anything which indicates to me that the industry has done anything to discourage the use of petroleum products in the United States.

In view of the fact that someday we *may* be placed in the position of being a "have-not" nation with respect to crude oil, let us take a quick look at the synthetic situation. The word synthetic, in this sense, comes from *synthesis* in its chemical meaning: The art or process of making or building up a compound by the union of simpler compounds or of its elements; as, the synthesis of water from hydrogen and oxygen. There are at present three principal sources of synthetic oil: oil from natural gas, oil from shale and oil from coal.

Associated with the production of crude oil is the "escape" of huge quantities of natural gas. This

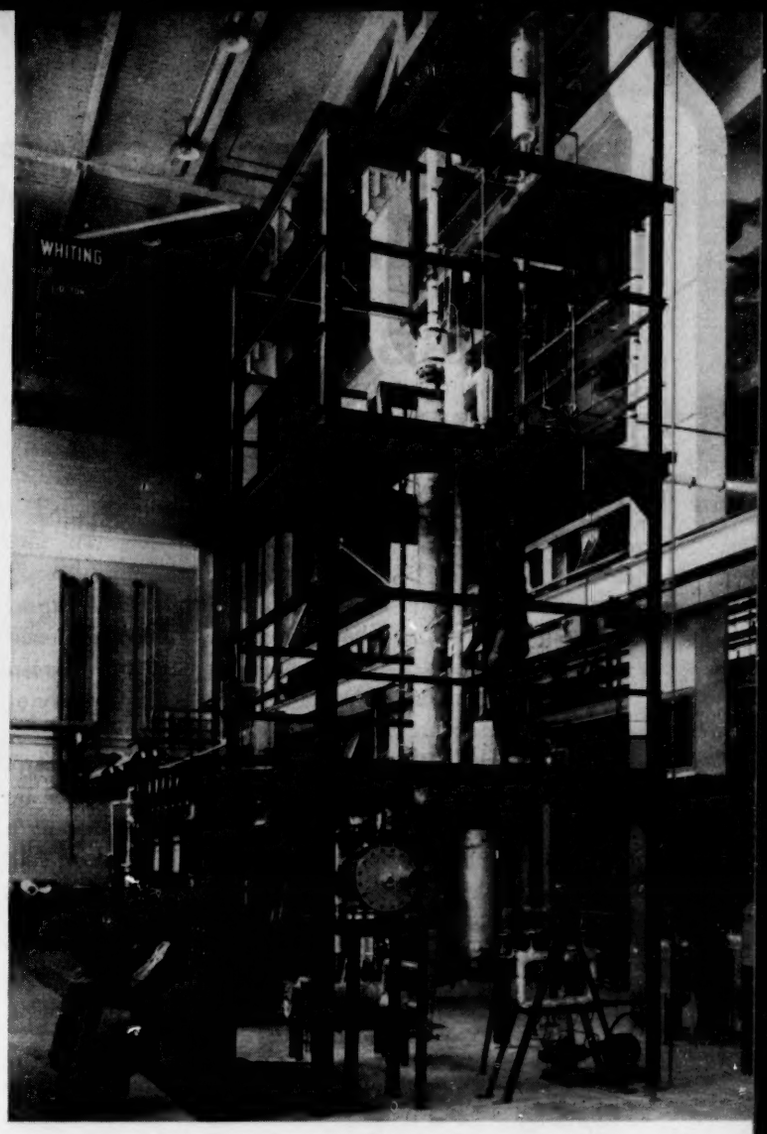
natural gas, trapped, cleaned, and piped, is used as a primary source of energy in heating, both in industrial and home heating appliances. This same natural gas, by synthesis with oxygen in a not too complicated process, produces a form of "crude oil"; from which it is possible to refine gasoline and diesel oil. This process is in commercial use today and furnishes a small portion of our gasoline output. Because of the relative price difference between natural gas and crude oil it is cheaper to synthesize gasoline from natural gas than to produce it from crude oil. We can look, therefore, to an increase in the use of natural gas as a primary source of gasoline and diesel oil.

The term "oil shale" is slightly misleading. A somewhat longer but more descriptive terminology might be: shale from which a solid hydrocarbon is obtained. This hydrocarbon is extracted from the shale at a low heat, then treated by hydrogenation which in turn produces a liquid which can be refined in the conventional manner. The present costs of mining shale, retorting it and subjecting the hydrocarbon to hydrogenation to produce the refinable liquid are such that it is not now on a competitive basis with crude oil as a supplier of gasoline. Indications are that it can compete, when produced commercially (it is now in an experimental status under the Bureau of Mines) with the lower refined products; e.g., "Bunker C" types of oil for producing heat. The reserves of shale are comforting, as Colorado alone is estimated to have shale enough to produce 15 times as much "crude oil" as our present proved reserves of crude oil!

OIL FROM COAL IS POSSIBLE under two processes: hydrogenation and the German Fischer-Tropsch process. Both processes are at present relatively expensive in terms of cost of the end product, gasoline. However, based solely on our reserves of coal, the outlook for this process in the long haul is good. While it may be expensive, we can at least see a supply of liquid fuels very very far into the future.

As pointed out above, a rise in the price of petroleum products will cause some users to convert or reconvert to coal. This is especially attractive, to me, as a conservation measure. It does not appear to be a sound practice, either from the standpoint of economics or conservation, to convert a ton of coal into a barrel of crude into a lesser amount of heating oil. It is far more profitable, in terms of actual heat produced, to use the coal as a primary source of heat rather than to convert it into a more convenient form when the installation will permit the use of coal in the first place.

In summarizing, the economic aspects of the oil situation in the United States it may be said that in spite of the size and capacity of our oil industry we are now in an era when the supply of petroleum products available



Bureau of Mines

Fischer-Tropsch gasoline synthesis pilot plant at Bruceton, Penna., is used by government for experiments.

does not quite meet the demands our peace-time economy places on it. But this lack of sufficient supply is primarily caused by a lack of refinery capacity and not by a lack of crude oil production. Our reserves, apparently ever increasing, are being further increased by exploration spurred on by record high prices for crude oil. New refinery capacities are being developed but at a rather slow rate necessitated by a shortage of steel. This new capacity will be of the selective type which will permit the production of almost any product from the oil which the refiner desires or demands indicate. The people of the United States will continue to enjoy the use of oil for some years to come at prices they can and will be able to pay. Synthetics are coming but as yet the price differential is too great for them to come competitively. When they arrive the price will be somewhat higher than present oil prices but the resources from which they can be produced are so vast that no shortage of synthetics is foreseeable.

to be concluded

Less Stammer and More Finesse

By Capt Henry J. Blossy

Illustrated by TSgt John De Grasse

MARINE CORPS OFFICERS CAN BELLOW WITH THE best. Too bad they can't talk.

It is not meant to imply that the Corps is made up of a group of "dese" and "dem" men in the commissioned ranks. On the contrary, Marine officers have a firm grasp on the king's English, even though it might be by way of China, Haiti, Guam, Hawaii, and Guantanamo Bay.

But I repeat. They can't talk. In the main they can't stand up in front of an audience, whether it be made up of enlisted personnel or stiff-shirted businessmen at a $10-dollar-a-plate dinner, and do a creditable job of conveying to their listeners their thoughts in an intelligible, interest-demanding way. And this is so in the face of a realization that their own personal standing and that of the organization they represent would be greatly enhanced if they could learn to express themselves with an easy fluency.

Let's see some examples which graphically illustrate what I mean and lift this discourse above the level of pure tripe.

Upon entering the Corps as the conventional college PFC hell-bent-to-fury on winning the coveted gold bars, I had a vivid picture of what qualities to expect in Marine officers. To me they were a few pegs below God, a planet's distance above the commissioned ranks of the other services and a hell of a lot better than I was—although I fervently hoped I'd be imbued with enough training and tradition to some day measure up to the standards of an A-1 officer.

During the first stages of Candidates Class all my contentions were borne out to the nth degree. The officers I saw—stately looking when on liberty and efficient and competent when participating in field exercises or on a drill field—were an awe-inspiring group. The company commanders in my training battalion were all an especially idolized group to me, and my CO seemed to be the cream of the lot. He was sacrosanct; a composite of everything I thought a Marine officer should be. It is too bad he had to take the platform in the classroom that day for a "friendly" talk; a talk which started on a high note as he strode majestically across the platform. Upon reaching center stage he looked out at us for a time.

That was good effect—well calculated, I thought. That's what I thought until he got a little red and then in a state of fluster stammered something about having forgot what he was going to say.

It was like falling off a ten foot wall on my head, as I saw my beautiful vision crumbling into a mass of unintelligible verbiage. I squirmed and everyone else squirmed. It was pretty hard to take, seeing a man who had everything on his side make a fool out of himself just because he had never taken the trouble to learn even the rudiments of platform presence.

My second example took place a couple of years after my initial jolt while I was proudly sporting the silver bars of a first lieutenant. I was reading one night when one of my brother officers came barging in and plumped himself down heavily on a chair next to me. "I'm going to give a lecture on ballistics," he blandly informed me, "and I want to try you out." With that he pulled out a book of voluminous proportions and turned to the first marker. He started rattling off statistics and technical phrases with the glibness of a man who can read the printed word. This went on marker after marker until he had gone through the entire book.

After finally closing the book and putting an end to the ordeal, he turned and said, "Well, what do you think?"

I told him fine. I was glad to see that he could read. I hadn't penetrated the author's jargon, I told him, so I knew exactly nothing about what he had said.

"Well you haven't got anything on me," he said. "But I'm not worrying. If you can't convince 'em, confuse 'em," he borrowed from the political spellbinder.

Whether speaking to enlisted men, other officers, or civilians, a well-prepared, decently-delivered talk is more impressive than all the gold lace or ribbons the speaker may wear. Preparation will give the speaker poise and confidence

These two examples, although far removed in a sense, have many common attributes. They both were letting down the Corps and themselves as officers in such degrading performances. But in the case of the harassed lieutenant another, outside, factor is brought in. His CO. He had deliberately thrown the lieutenant into a situation which would be poor at best. Abiding by the theory that a marine officer should be a fountain of knowledge, a walking encyclopedia, he gave this man an assignment which was way out of his scope. In other words, he deliberately exposed the lieutenant to criticism.

I know what the lieutenant was up against, for I had a similar experience—although I tried to do a better job than my friend. A major, reading through a magazine, saw a treatise which struck his fancy. Hard pressed to fill his next day's training schedule, he scheduled a lecture on it and assigned me the task of assimilating the material and working out a decent preparation in one night. When I pleaded for time, he merely laughed it off and said, "Oh, you can do it."

And that was that. I tried my best on the short notice to give a constructive talk, but I'm afraid I was as unsteady as my Candidates Class company commander. I did not have the depth to give a real lecture and so had to skate perilously on thin ice, hoping against hope that no one would ask me to explain anything I said.

Such cases as my experience and that of my book-toting lieutenant friend who turned his ballistic class into a bullistic discourse can undoubtedly be multiplied many times. But they can all be traced back to one thing: There has never been (to my knowledge) any provocative thinking along the lines of good elocution in the Marine Corps. The fact that a man can build up a mountain of respect with his command presence on the drill field and then have it reduced to a mole hill as he assumes the role of a fledgling on the speaking platform has too long been an overlooked fact.

There are three things necessary to arouse the dormant interest in the Marine Corps for articulate speech. Number one is a regular course of study in our training schools.[1] Number two is to make it mandatory to practice the rules of good speech whenever an officer has occasion to speak before troops or any other kind of audience. And number three is that personal attention be given to the problem of speech making by individual officers. They must learn the simple rules of speech making, learn

[1] The Marine Corps has at least one such course: IOC or Instructors' Orientation Course which is given to various instructors, staff members, and students assigned to MCS, Quantico.

the tricks of well-ordered, interesting speeches, and, most of all, they must learn not to fear sessions on the rostrum.

The carrying out of my first suggestion would be simple. To implement it an intensified public speaking course in AWS-JC and Basic School would be inaugurated. It would have as strong an emphasis placed on it as does drill and command.

There would also be "refresher" courses for officers who have been out in the field and are then assigned to advanced schools. This would be especially useful for officers of the field rank and above. For as an officer advances up the ladder he usually finds more occasion to address civilian audiences. And an interesting speech will do much more to impress them than the sparkle of his gold buttons or rows of ribbons.

It might be said here that I do not advocate a lace hankie type of Marine officer. This training isn't meant to establish a judgment by which a commissioned officer would be rated by the exactness of his diction and ease of delivery. But it is meant to revitalize a lost art in the Marine Corps, and it is meant to point up the false thinking that respect and admiration is won alone by emphasis on the hup, two, threeing of military training. The troops have to come off the drill field and rifle range sometimes and it is the man who has mastered his military lessons *and* the finesse of speaking well who will rate the highest as a finished military man.

The second course of action would be in the hands of individual commanding officers. They would see to it that each officer is given a frequent opportunity to keep his public speaking finesse from getting rusty due to disuse. COs would be understanding and in sympathy with the necessities for good speech making, also.

Plenty of time would be given for the preparation of speeches, and assignment of subjects would be in conformity with an officers background and duties. In other words, a CO would not expect an officer to be so erudite as to handle any assignment. It would only defeat the whole program of public speaking competence and its prestige-getting effect. You just can't be eloquent or at ease when speaking about something you don't understand fully.

The personal attention given to speech making by individual officers would come as the natural corollary to the first two courses of action, but requires some careful attention nevertheless. For all the schooling and assignments given a man will not necessarily make him a polished speaker. If he does not understand the framework upon which a good speech is built, if he does not give particular attention to his individual needs as a speaker, if he does not approach the task of speaking well as his own individual problem, he will never become a practiced speaker. He will never overcome the tautness of the amateur stutterer and gradually attain professional platform presence. Here are just a few of the things every marine officer should consider carefully regarding his own problems as a public speaker.

THE FIRST IDEA to discard is that you "can't speak." Contrary to popular belief good speakers are made and not born. It is true, of course, that some men have more of a facility for speech making than others, but there is no insurmountable obstacle to prevent the average person from becoming an interesting speaker. But it takes work, and there will be some rough jolts for the neophyte orator during his first few appearances. These are to be expected, however, and it is surprising how quickly the road leading to articulate speech smooths out as the speaker advances upward toward perfection.

Nervousness is another aspect of public speaking which often discourages new speakers. They think there's something lacking in themselves because their stomachs do flips before a speaking engagement and their voices quiver from anxiety when they begin to talk. This nervousness is something that must be endured by the best of speakers. In fact, there would probably be something drastically wrong with them—a deep-rooted psychological unbalance —if they felt not a twitter of excitement before speaking. The difference between the adroit speaker and the beginner is that the former loses his nervousness as soon as he has begun to talk. He has confidence in his delivery, he is sure of his subject matter and as he begins to unfold his speech this confidence washes away the physical discontent his body sets up.

So even if the new speaker feels unsteady during his first few appearances, it is no sign that he cannot eventually overcome this fear. Experience, combined with his well prepared speaking material will gradually build up

his confidence and extirpate the jerkiness in his delivery.

After you have convinced yourself that you can speak well if you want to, the next step is the preparation of the speech itself. This first brings us to the question of a selection of a subject. Naturally, in the case of definite assignments this is eliminated. But if you have occasion to speak and must select a subject, what is the best course of action?

The answer lies right within yourself. What has been your background? Your interests? Your specialities? These are the sources of your best speeches. For subjects you are familiar with, have an interest in, or have had training in will supply you with a wealth of facts and anecdotes to give your treatise the depth so vital to good

speeches.

Henry Ward Beecher, the widely-known preacher, understood the need of long roots for speech material, and that is one of the reasons why he became such a renowned orator. After one of his talks, for instance, he was asked, "How long did it take you to prepare the sermon of the morning?" Without blinking an eyelash he replied, "Forty years."

There is no substitute for wide knowledge of a subject to give a speaker confidence and give an authoritative flavor to his talk. For this reason, if there is a choice of subject you should choose one you are thoroughly familiar with.

Even if you must talk on assignment the personal aspect of your speech preparation should not be neglected. If you cull ideas and statements from source books in a copious manner and neglect your own personal views on a subject, you become little more than a parrot and your screeching will sound mechanical and dry.

The best way to avoid this is to set down your own views first, even before you have started your research. This will accomplish two things: It will give you an idea what you know about the subject, and it will supply you with a core around which to build your speech. As you gather more material through reading, conversation, and observation your meager knowledge will mushroom to great proportions, but you will still maintain your original personal ideas. The additions will then become embellishments to your thoughts, and you will be speaking for yourself and not for the dozen or so authors from whose works you gleaned facts and figures.

In the mechanical preparation of a speech most authorities suggest a detailed outline of what is to be said. You'll probably find that you have a great deal to say—or you think you have. If you follow the sage advice of one well-known speaker you'll pare this original outline unmercifully. He says: "After preparing the first draft of your speech discard most of it and condense the rest." If you abide by this rule you'll never be guilty of long-winded talks while your audience squirms and twitches.

After you've selected your subject, gathered material, and composed an outline comes the big question of delivery. Should it be read in whole or in part; should prompting notes be used, or should a speaker work entirely from memory? In general it is not wise to read a speech, and this form of delivery should be avoided wherever possible. Likewise, for an inexperienced speaker especially, it is usually dangerous to speak extemporaneously. This is conducive to rambling and instills jerkiness. Brief notes giving key words to spark you into the next phase of your talk are the best safeguards to smooth-flowing speeches. Notes do not give a speech a mechanical sound and they assure continuity.

In general, the only parts of a speech that should be memorized wholly are the beginning and end. With a sure-footed, lively beginning you will capture the audience's attention immediately, and a strong ending will leave the audience with a good impression, even making them forget some of the sags in your speech.

Another important phase of good speech-making is constructive criticism. Don't be afraid of it. In fact, welcome it. For any faults pointed out to you will be ones which you will exclude in future talks and thereby add to your delivery. Plant a critic in your audience for the expressed purpose of picking up any of your failings. Tell him to be brutally frank. That's the only way you can travel toward speech perfection in high gear.

There is no doubt about it. Training will help a speaker to perfection and practice will do even more. But ultimately it is up to the individual officer to make himself a finished speaker. USMC

Evolution of the Joint Staff

By Col. Manly L. Curry

THE JOINT CHIEFS OF STAFF ORGANIZATION WAS born of necessity and developed to its present state under wartime pressure. The Joint Staff, or working organization, which serves the JCS differs somewhat from the staffs generally encountered and should prove interesting to those hitherto unfamiliar with its peculiarities. Since the Joint Staff was tailored specifically to meet the needs of the JCS, we should begin our study with an examination of the latter.

Prior to World War II, no effective agency existed in the U. S. Government to plan for and execute joint activities of the armed forces, short of the President himself, although the need for such an agency had long been generally recognized. Actually, as early as 1903 a Joint Board was established by voluntary agreement between the Secretary of War and the Secretary of the Navy, but never had a legal basis. It was described in its original charter as advisory to the two Secretaries and its recommendations were to become effective upon their mutual approval. In some cases, Presidential approval was required. The composition of the Joint Board was originally specified as four high-ranking officers each from the Army and Navy; later the membership was specified as the Chief of Staff, and Assistant Chief of Staff for War Plans for the Army, and the Chief of Naval Operations, the Assistant Chief of Naval Operations, and the Director War Plans Division for the Navy.

The Joint Board was suspended by President Wilson in 1914 and reestablished in 1919. From that time it experienced no major changes in status until July 1939 when President Roosevelt placed the Joint Board, the Joint Economy Board, the Aeronautical Board, and the Army-Navy Munitions Board under his own direction as Commander in Chief of the Army and Navy.

The first publication of the Joint Board was issued in 1919 under the title *Joint Army-Navy Action in Coast Defense* and dealt briefly with principles. In 1927 the Board published the first edition of *Joint Action of the Army and the Navy*, covering the respective functions of the two Services, a definition of the functions of the air components of each, a chapter on coast defense, a chapter on communications, and a list of agencies existing in the Services for effecting coordination. It also included a general discussion on coordination and concluded that two methods might be applied depending on existing circumstances: First, the principle of paramount interest, and second, the principle of unity of command. The latter was to be applied under conditions requiring joint operations and effected by a delegation of authority of the President as Commander in Chief. A revised edition of *Joint Action of the Army and Navy* was published in 1935 and modified from time to time thereafter, but it never became adequate for the national emergencies which were to confront us.

The inadequacy the Joint Board must be charged to weaknesses inherent in its charter and organization. First, its function was purely advisory; it had no authority to order coordination. Secondly, it lacked a permanent working staff, making it very difficult to deal properly with the various problems coming before the Board.

IT IS INTERESTING TO NOTE that the Joint Chiefs of Staff was actually an outgrowth of the Combined Chiefs of Staff. As Japanese forces swarmed into Malaya and the Philippines and struck Pearl Harbor, it became apparent that some machinery was required to coordinate the efforts of the British, Australian, Dutch, and U. S. land, sea, and air forces in the Far East and Southwest Pacific areas. In December of 1941, Prime Minister Churchill accompanied by the British Chiefs of Staff came to Washington to confer with corresponding officials of the U. S. Government, which conferences led to the ABDA agreements, including the appointment of Field Marshal Wavell as the first Supreme Commander of all Allied forces in the ABDA area.

Further conferences were held the following month for the purpose of establishing Combined Chiefs of Staff procedures. The British suggested that the word "combined" be applied to collaboration between two or more nations and that the word "joint" be applied to interservice collaboration within one nation, which suggestion was accepted. The term "Combined Chiefs of Staff" was defined as the United States Chiefs of Staff and the British Chiefs of Staff. It was agreed that the CCS organization should include the Combined Staff Planners, the Combined Intelligence Committee, and a Combined

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Col Manly L. Curry, who last year had two thorough pieces on Palestine in the GAZETTE, *is at present assigned to the Joint Chiefs of Staff.*

Born of necessity and developed to its present state under wartime pressure, the Joint Staff is charged with the job of closely integrating the planning and execution of major operation involving diverse allied military forces

Secretariat. The first formal meeting of the CCS took place on 23 January 1942 at which a paper proposing its organization and functions was considered. The paper later adopted by the CCS was submitted to the President and the Prime Minister for approval. It was approved by the President the following April. This paper specified that the duties of the CCS were to formulate and execute policies and plans concerning:

(1) The strategic conduct of the war.
(2) The broad program of war requirements, based on approved strategic policy.
(3) The allocation of munition resources based on strategic needs and the availability of means of transportation.
(4) The requirements for overseas transportation for the fighting services of the United Nations[1], based on approved strategic priority.

The British Chiefs of Staff represented the Royal Navy, the British Army, and the Royal Air Force. In order to give the United States equal representation in air matters, LtGen Arnold, then Chief of the Army Air Forces, was included. To give the U. S. Navy equal representation with the U. S. Army, Adm King, then Commander in Chief, U. S. Fleet, was included. The other U. S. members were, of course, Gen Marshall, Chief of Staff of the Army, and Adm Stark, Chief of Naval Operations.

To insure prior agreement among the U. S. members of the CCS in dealing with their British colleagues, it was necessary that they first meet together for preliminary discussions. The first such meeting was held 9 February, 1942, after which they were known as the Joint Chiefs of Staff. Naturally they absorbed the functions of all agencies previously established to coordinate affairs of the Army and Navy, including the Joint Board.

In March of 1942 Adm King assumed the duties of both the Chief of Naval Operations and Commander in Chief, U. S. Fleet. From then until the following July the CCS consisted only of Adm King and Gens Marshall and Arnold. In July Adm Leahy was appointed Chief of Staff to the President and became a member of the JCS, providing close liaison between the President and the JCS.

Inevitably and from the outset the Joint Chiefs of Staff assumed two distinct roles: first, the U. S. representatives on the CCS[2], and secondly, the coordinating agency for the war efforts of the Army and Navy. In the latter capacity they reported directly to the President and were available to advise him on strategic matters.

Curiously enough, no legislative or executive action was taken to formalize the existence of the JCS until the passage of the National Security Act of 1947. However, the absence of any specific charter gave great flexibility to the organization and allowed it to develop according to need as the war progressed.

THIS BRINGS US to the Joint Staff. Today the term "Joint Staff" has a special meaning which will be explained later, but here the term will be used to include all the staff agencies which served the JCS until the Joint Chiefs of Staff Organization became legalized.

Acting in their role as principal coordinating agency for the armed forces of the U. S., the Joint Chiefs of Staff were faced with a multiplicity of problems requiring substantial staff assistance. To meet this need the U. S. Components of the Combined Staff Planners, Combined Intelligence Committee, and Combined Secretariat became the Joint Staff Planners, the Joint Intelligence Committee and the Joint Secretariat, respectively. In addition, other joint agencies were added to the JCS organization as the need arose. These agencies as they existed during World War II are shown in Figure 1. All were not strictly staff agencies and some outlived their usefulness and were dissolved. It should be noted that no over-all coordinator (Chief of Staff) was provided for the various staff components, other than the Joint Chiefs of Staff themselves. There was also some criticism that the Joint Secretariat (which had both administrative and secretarial functions) was inadequate in size.

Before a year had elapsed following the birth of the Joint Staff it became apparent that its committee structure was faulty and a special committee was convened to study the problem. It discovered that the Joint Staff Planners were over burdened with administrative and logistic matters to the detriment of their strategic planning. A new agency, known first as the Joint Administrative Committee and later as the Joint Logistics Com-

[1]Meaning the Allies.

[2]The duties of the British Chiefs of Staff, of course, required that they spend the bulk of their time in London. Upon returning there, they left representatives in Washington, enabling the CCS to function on a full-time basis. Thereafter, the British Chiefs of Staff met personally with the U.S. JCS only on very important occasions.

mittee, was formed to correct this deficiency.

The Joint Strategic Survey Committee, the Joint Staff Planners, the Joint Logistics Committee, and the Joint Intelligence Committee formed the real heart of the Joint Staff, the work of the other groups being mainly technical in nature. With the exception of the Joint Strategic Survey Committee, the membership of these main groups was composed of officers who held corresponding jobs in their respective Departments, and hence could not devote their full time to joint matters. Since the Joint Staff Planners, Joint Logistics Committee, and Joint Intelligence Committee bore the burden of general staff duties, the Joint War Plans Committee, Joint Logistics Plans Committee, and Joint Intelligence Staff were set up as full-time working teams for their respective high level committees (in the local patois they were "Indians" to do the pick-and-shovel work for their "chiefs").

The National Security Act of 1947 (Public Law 253), legalizing both the JCS and its Joint Staff, became effective when Secretary of Defense Forrestal took the oath of office on 18 September, 1948. Pertinent extracts follow:

> "Sec. 211. (a) There is hereby established within the National Military Establishment the Joint Chiefs of Staff, which shall consist of the Chief of Staff, United States Army; the Chief of Naval Operations; the Chief of Staff, United States Air Force; and the Chief of Staff to the Commander in Chief, if there be one.
>
> "(b) Subject to the authority and direction of the President and the Secretary of Defense, it shall be the duty of the Joint Chiefs of Staff—
>
> "(1) To prepare strategic plans and to provide for the strategic direction of the military forces;
>
> "(2) to prepare joint logistic plans and to assign to the military services logistic responsibilities in accordance with such plans;
>
> "(3) to establish unified commands in strategic areas when such unified commands are in the interest of national security;
>
> "(4) to formulate policies for joint training of the military forces;
>
> "(5) to formulate policies for coordinating the education of members of the military forces;
>
> "(6) to review major material and personnel requirements of the military forces, in accordance with strategic and logistic plans; and
>
> "(7) to provide United States representation of the Military Staff Committee of the United Nations in accordance with the provisions of the Charter of the United Nations.
>
> "(c) The Joint Chiefs of Staff shall act as the principal military advisers to the President and the Secretary of Defense and shall perform such other duties as the President and the Secretary of Defense may direct or as may be prescribed by law.
>
> "Sec. 212. There shall be, under the Joint Chiefs of Staff, a Joint Staff to consist of not to exceed one hundred officers and to be composed of approximately equal numbers of officers from each of the three armed services. The Joint Staff, operating under a Director thereof appointed by the Joint Chiefs of Staff, shall perform such duties as may be directed by the Joint Chiefs of Staff. The Director shall be an officer junior in grade to all members of the Joint Chiefs of Staff."

In Sec. 211, paragraphs (2) and (6) are particularly significant since the old war-time Joint Logistics Committee was considerably hampered in its efforts by inter-service competition in logistical matters.

In Sec. 212, two points are significant: First, the provision of a director for the Joint Staff (corresponding to a Chief of Staff in a limited sense) and, second, the legal limit of one hundred officers imposed on the Joint Staff. This restriction raised the question of just what was to be included in the Joint Staff. The solution adopted is shown graphically in Figure 2. It will be noted that with reorganization the term "Joint Staff" took on a restricted meaning as compared to the war-time JCS Organization.

The Joint Staff now consists essentially of the Joint Intelligence Group, Joint Strategic Plans Group, and Joint Logistics Plans Group (also responsible for joint personnel matters), coordinated by the Director, and served by the Joint Secretariat responsible for secretarial and internal administrative functions. The three main groups, of course, grew out of their war-time counterparts. This structure consists of full-time personnel in approximately equal numbers from the Army, Navy[3] and Air Force who report to the Director for duty when assigned to the Joint Staff. It is essentially a working staff to prepare the preliminary detailed staff studies for the higher echelons of the JCS organization. As indicated on the chart, the work of each group is subject to review by its corresponding committee.

As in wartime practice, each committee is made up of members who occupy corresponding positions in their respective Service headquarters, and thus "wear two hats." For example, the Joint Strategic Plans Committee is composed of the top-level strategic planners of the Army, Navy, and Air Force. Opinion differs as to the desirability of this arrangement. One body of thought holds that it is necessary in order that the Departmental views be adequately presented; the other view is that the position they hold is sufficiently important to justify their full-time effort. Each Group of the Joint Staff is headed by a general or flag officer, called a Deputy Director, who is also a member of his corresponding Committee.

In addition to the Joint Staff proper, which as previously emphasized is a full-time organization, the Joint

[3]Marine officers are included in the Naval contingent as "naval members" and are assigned to certain working teams each with an Army and an Air Force team mate. At present there is one Marine Officer in the Joint Intelligence Group, two in the Strategic Plans Group, two in the Logistics Plans Group, and two in the Secretariat.

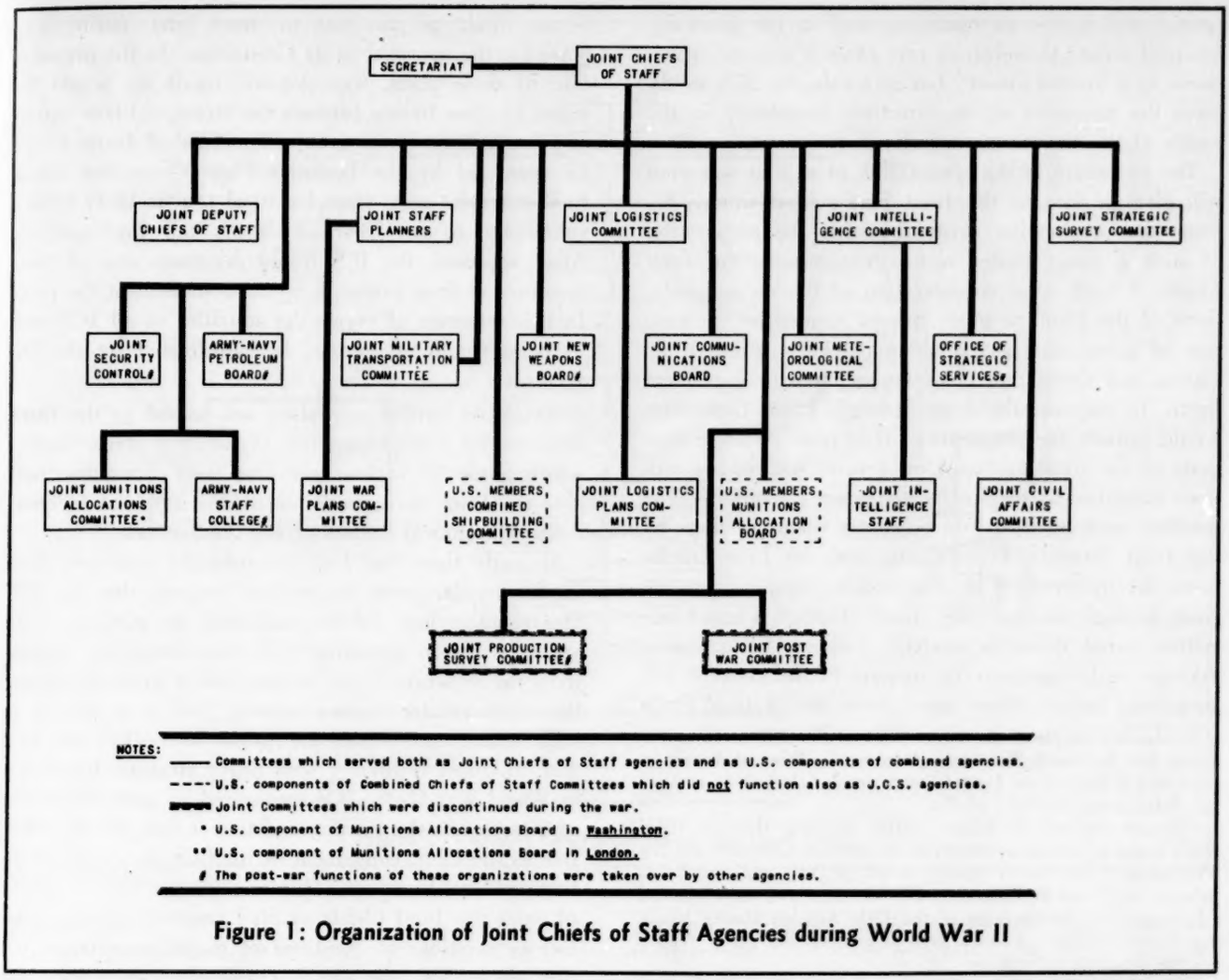


Figure 1: Organization of Joint Chiefs of Staff Agencies during World War II

Chiefs of Staff Organization includes various part-time agencies such as the Joint Civil Affairs Committee, Joint Meteorological Committee, Joint Communications and Electronics Committee, Joint Military Transportation Committee, and Joint Munitions Allocations Committee. It not infrequently occurs that certain problems arise to deal with which *ad hoc* committees are temporarily convened. Neither these part-time committees, nor the Secretariat, are charged against the legal ceiling of one hundred officers.

A very important agency of the JCS, falling in a category by itself, is the Joint Strategic Survey Committee. Although a full-time organization, it is not included in the Joint Staff but has direct access to the JCS. It is composed of two-star flag and general officers who are the principal advisers to the JCS on matters of national policy and grand strategy.

Before considering the role of the Director of the Joint Staff, it should be recalled that decisions of the Joint Chiefs of Staff must be unanimous; otherwise they would not be joint. Occasionally problems involve questions of interservice disagreement. For the most part these split views are resolved on the working level by compromise, but not always. In such cases the Director is not empowered to settle differences of opinion among his staff officers (as could a Chief of Staff) since such action would infringe upon the prerogatives of the Joint Chiefs of Staff in matters of interservice disagreement. Despite this limitation, as compared to a Chief of Staff in the conventional sense, the office of the Director is an extremely important addition to the JCS organization, as his duties are otherwise analogous to those of a Chief of Staff in the coordination of all JCS agencies.

The duties imposed upon the Joint Chiefs of Staff by law suggest the types of problems with which the Joint Staff is concerned. In general, they may be classified as joint strategic war plans, involving of course joint intelligence and joint logistics; joint policy; joint training and education; and miscellaneous day-to-day problems of joint concern.

The reader may be interested in the manner in which the Joint Staff functions. First of all it should be understood that the Joint Staff, in conjunction with other JCS agencies, functions as a planning and coordinating

agency and is not an operating staff in the generally accepted sense. However, in rare cases it may be operational to a limited extent[4], but as a rule, the JCS would leave the execution of its directives completely in the hands of the theater commanders.

The procedure in the preparation of a joint war plan will give an idea of the Joint Staff's functioning. Assume that a situation exists requiring the preparation of such a plan. Under such circumstances, the Joint Chiefs of Staff, after consideration of the recommendations of the Joint Strategic Survey Committee on matters of grand strategy, would make basic military decisions and direct that plans be prepared to implement them. In response the Joint Strategic Plans Committee would initiate the preparation of a joint strategic estimate of the situation based on a joint intelligence estimate furnished by the Joint Intelligence Committee. The detailed work on these two estimates would be done by the Joint Strategic Plans Group and the Joint Intelligence Group working in close collaboration. From the joint strategic estimate, the Joint Strategic Plans Committee would derive a strategic concept, basic undertakings, and operations in support of the concept (all in general terms). Based upon these, the Strategic Plans Group would prepare one or more joint outline war plans for the approval of its Committee. In the preparation of these plans, their logistic feasibility would be tested by close liaison between the Strategic Plans Group and the Logistic Plans Group. The finished drafts would be examined by the Logistics Plans Committee for a final statement as to their logistical practicability before submission to the Joint Chiefs of Staff for approval. After approval, the JCS would designate one of their members as their executive agent to implement the plan. In this sequence of events the activities of all JCS staff agencies would, of course, be coordinated by the Director.

Approved outline war plans are passed to the three Services for the preparation of detailed plans, during which phase the various part-time joint committees outside the Joint Staff proper would be involved in coordinating technical matters among the Services.

Recently there has been considerable criticism, both in the popular press and within Services, that the JCS Organization has not accomplished its purpose. The writer is not in agreement with this viewpoint. Admittedly the structure is not perfect, but it works far better than any similar agency existing before it and it is still improving. Critics are prone to neglect the fact that, although beginning with heavy strategic handicaps in World War II, the JCS engineered an unbroken series of victories in the Pacific, and that it was equally effective as the U. S. component of the CCS directing operations in the European Theater. In the vast majority of cases the Joint Chiefs of Staff reached entirely satisfactory solutions to questions of major importance. In this connection, the single outstanding exception was in the matter of appointing an over-all commander for the projected invasion of the Japanese homeland. Here the battle-tested principle of unified command gave way to the doubtful principle of mutual cooperation among land, sea and air forces.

In peace time, the element of delay in reaching JCS decisions may increase, but critics are not justified in magnifying it into "inability." The JCS has repeatedly proven itself capable of reaching joint decisions on vital matters. It should be realized that, on this level, controversial questions of far reaching implication are dealt with, and honest difference of opinion may often delay the adoption of satisfactory solutions. However, this much criticized element of delay is also an element of soundness, since it results from searching examination of questions frequently affecting the Nation's destiny. The alternative is the power of decision resting in one military individual, in which case the probability of making grave errors is much greater. Should an impasse actually be reached by the Joint Chiefs of Staff, decision, of course, can be made by the Secretary of Defense or the President, but such cases would be

[4]A classic example of the intervention of the JCS in an operational role in World War II is given in the *Biennial Report of the Chief of Staff of the United States Army, July 1, 1943, to June 30, 1945, to the Secretary of War:*

"Toward the end of August (1944) Admiral Halsey's Third Fleet began a probing operation in the western Carolines and the Philippines. His carrier planes struck at Yap and the Palau Islands on 7 and 8 September, and the next two days bombed Mindanao. On the morning of the 12th, Admiral Halsey struck the central Philippines and arrived at a conclusion which stepped up the schedule by months.

"The OCTAGON Conference was then in progress in Quebec. The Joint Chiefs of Staff received a copy of a communication from Admiral Halsey to Admiral Nimitz on 13 September. He recommended that three projected intermediate operations against Yap, Mindanao, and Talaud and Sangihe Islands to the southward be canceled, and that our forces attack Leyte in the central Philippines as soon as possible. The same day Admiral Nimitz offered to place Vice Admiral Theodore S. Wilkinson and the 3d Amphibious Force which included the XXIV Army Corps, then loading in Hawaii for the Yap operation, at General MacArthur's disposal for an attack on Leyte. General MacArthur's views were requested and 2 days later he advised us that he was already prepared to shift his plans to land on Leyte 20 October, instead of 20 December as previously intended. It was a remarkable administrative achievement.

"The message from MacArthur arrived at Quebec at night, while Admiral Leahy, Admiral King, General Arnold, and I were being entertained at a formal dinner by Canadian officers. It was read by the appropriate staff officers who suggested an immediate affirmative answer. The message, with their recommendations, was rushed to us and we left the table for a conference. Having the utmost confidence in General MacArthur, Admiral Nimitz, and Admiral Halsey, it was not a difficult decision to make. Within 90 minutes after the signal had been received in Quebec, General MacArthur and Admiral Nimitz had received their instructions to execute the Leyte operation on the target date 20 October, abandoning the three previously approved intermediary landings. General MacArthur's acknowledgment of his new instructions reached me while en route from the dinner to my quarters in Quebec."

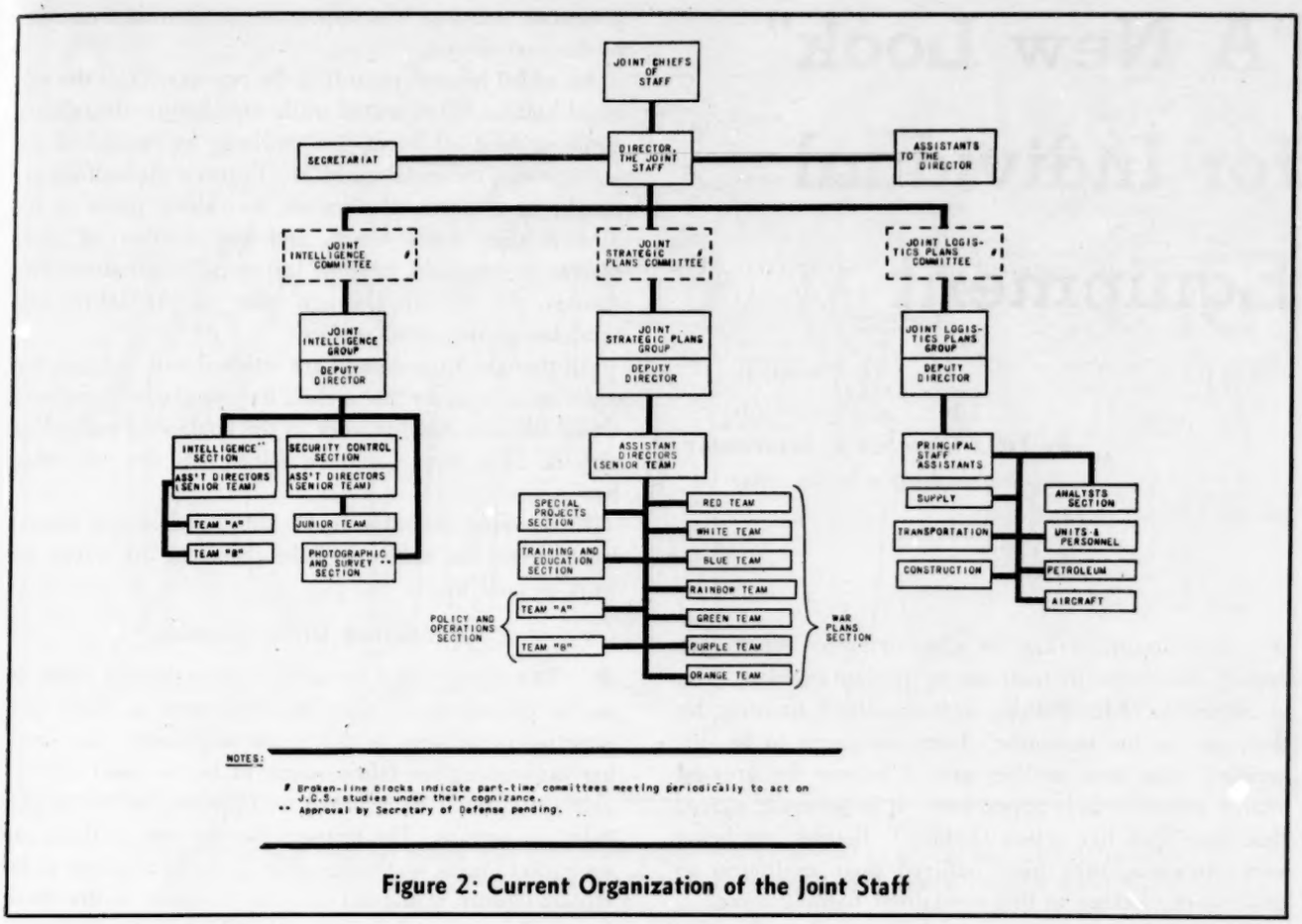


Figure 2: Current Organization of the Joint Staff

extremely rare.

In the field of strategic planning, promptness of decision does not generally assume the degree of importance that it does in the field of tactical execution. As a rule, in practice the Joint Chiefs of Staff have given complete authority to theater commanders in the execution of their decisions, reserving to themselves the authority to determine from which Service the theater commander shall be appointed, and specifying to him only what objectives shall be attacked and when. In addition, they retain the responsibility for assigning the available forces to the various theaters.

In these matters the function of the Joint Staff is to study thoroughly questions confronting the Joint Chiefs of Staff and to propose solutions for the consideration of the latter. The acceptability of the proposed solution depends in large measure on the "joint viewpoint" of the staff officers who have made the study. It is realized that many eyebrows will rise at the mere suggestion that such a thing as a joint viewpoint is possible in officers who have spent their entire careers in one Service, before being assigned to the Joint Staff. Nevertheless, it does exist and can be developed by education. There is a very marked difference of viewpoint among officers who work continuously with officers of other Services and among those who do not. One school of thought with exponents in all three Services proposes that, in order for the Joint Staff to develop its full possibilities, a Joint Staff Corps should be created, officers assigned to such duty to be divorced from their parent Services. In addition to serving on the Joint Staff in Washington, they would be available to serve on the staff of any joint command, in the continental U. S. or overseas. There is much to be said on both sides of this question, but it is not the writer's purpose to precipitate an argument on this subject.

At this time the Joint Staff is getting along very nicely with what it has.

In conclusion, it should be noted that history has repeatedly shown the absolute necessity of closely integrating the planning and execution of major operations involving diverse military forces, whether such forces belong to only one country or to several allied countries. Both the Combined Chiefs of Staff and the Joint Chiefs of Staff came into existence to meet the complex requirements of World War II. The ever increasing scope of warfare will emphasize this necessity in the future, and a specially trained Joint Staff will be required to enable the Joint Chiefs of Staff to function efficiently.

USMC

"A New Look" for Individual Equipment

By 1stLt Clarence E. Schwaneke
Original drawings by the author

THE DISADVANTAGES OF THE UTILITIES WERE NOT entirely discovered by their use on the field problem. The shortcomings of the clothing were magnified, however, by their use on the maneuver. Everyone seems to be dissatisfied with them as they are. I believe the greatest charge voiced is their appearance. It is generally agreed that they "look like prison clothing." Besides, not being very attractive, they have outlived their usefulness as good work clothing in this specialized fighting force.

Many of the aviation personnel who work in them believe that coverall type clothing would be better suited and would offer more freedom for work around aircraft, while others believe that coveralls would be unsatisfactory as the top portion cannot be removed for working in warm temperatures.

Most all agree that the coat tails are a hindrance as they get caught on every projection, are ripped, or are generally in the wearer's way. Everyone I talked to suggested that the string belt be discarded. This item is generally thrown away upon issue of the clothing and the regular web belt substituted.

The bellow-type pockets on the present utilities have become a pet gripe of all hands. The men are especially vehement about the rear pocket. The introduction of the bellows pocket has put the "new" type utilities in a bad light as compared to its predecessor. Articles placed in these pockets make them unsightly and dangerous. The men complain that the front pockets get caught on any projection and that it is impossible to sit with something in the rear pocket.

An added hazard, regarding the rear pocket, is the two metal buttons. Men seated while working on aircraft are easily skidded off wings and cowlings by contact of the buttons with the metal surfaces. Further, the buttons get caught in all sorts of crevasses, on cables, joints in the aircraft skin, screw heads, and any number of other places. Incidentally, in some instances these buttons also damage the aircraft through tears in the fabric and scratches in the metal surfaces.

All the men I questioned are satisfied with the cap, but upon mention agree that a cloth flap for the ears and neck would be desirable for work in the cold wind around an airport. The flaps could be folded into the cap when not in use.

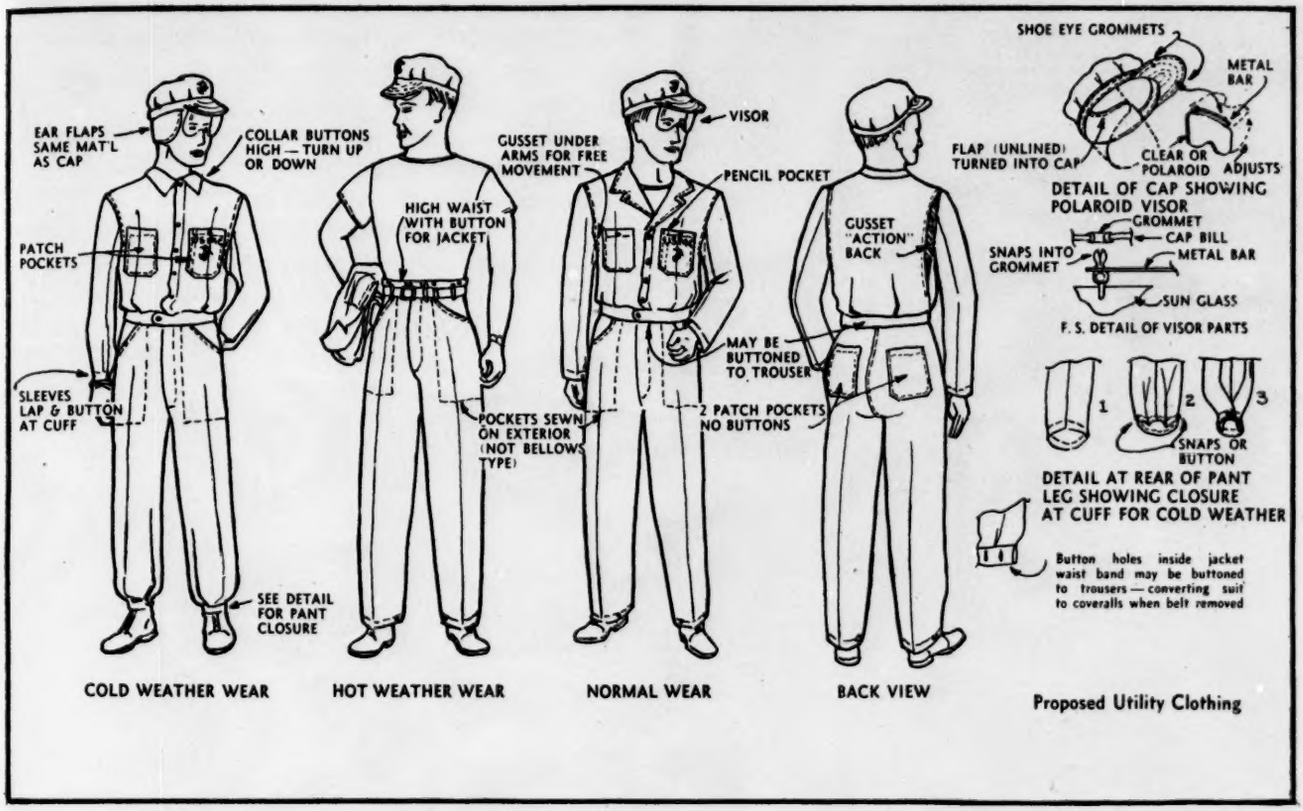
It appeared desirable to be able to close the trouser legs around the ankles and the jacket at the wrists for work in cold winds.

Redesigned Utility Clothing

THE UTILITY SUIT is made in three distinct parts, as is the present issue. The material used in their construction is the same as that in use at present. The green herringbone cotton fabric seems to be the most serviceable cloth and I have heard no objection to its weight, color, or texture. The trousers for the new clothing are somewhat longer in all sizes than those in use now to facilitate closure at the ankles. The trousers, as the drawings indicate, are provided with a high waist similar to that on the trousers of the new kersey issue. All pockets are of the flat patch type, without buttons, with the exception of the two jacket pockets. The jacket is made similar to the "battle" jacket now standard throughout the Marine Corps. Its construction should contain fewer refinements than the summer service jacket, and its range of sizes should be more limited to cut manufacturing costs. The cap is exactly the same as the one now issued but with two additions. These are the visor attachments and the neck and ear flap. The drawings of the clothing are self-explanatory and study should reveal the following features:

(1) The greatest undesirable feature of the present uniform is its appearance. Inspection of the drawing will indicate that a neat military look can be tailored into work clothing. Private business has discovered this fact, as evidenced by the neat working uniforms of service station attendants, truck drivers, window washers, and so on.

Part III: In addition to looking like "prison clothing" the present utility uniform has outlived its usefulness as good work clothes in our specialized fighting force. The author suggests a new suit made in three distinct parts



Redesigned utility uniform would give maximum protection from cold in winter and utmost in comfort in summer. Gusset under arms allows freedom of movement. Belt would replace waist-string.

(2) The redesigned suit may be buttoned together at the waist, and with the belt removed becomes coveralls affording working freedom that a two-piece uniform lacks.

(3) Because the trousers can be used separately with a belt, the undesirable feature of coverall type clothing, the fact that the top on standard coveralls cannot be removed in hot weather, is eliminated.

(4) The coat tails and the bellows-type pockets have been removed from the new utilities because they are not needed or wanted by any of the men I questioned. Buttons have been left off all pockets, with the exception noted above.

(5) The string-type belt has been discarded, as it usually is when issued, and the standard web belt substituted.

(6) Another feature of the suggested clothing, not included on the present utilities, is the provision for closure at the ankles and wrists for cold weather. This eliminates the need for canvas leggings while working in the cold.

(7) The inclusion of the under arm gussets and the action back on the new design offers more actual freedom of movement through the back and arms. This will also save frequent ripped shoulders and arm holes which ordinarily necessitate replacement of the garment.

(8) A plain, unlined, ear and neck flap has been added to the cap to protect these parts of the body from the cold wind. This flap may be turned up into the cap when not in use.

(9) The inclusion of the clear or Polaroid plastic visor would seem to be a practical solution to the problem of issuing sun glasses or industrial goggles. The metal bar upon which the visor is mounted may be unsnapped from the cap, allowing the cap to be laundered in the regular manner. The visor may be worn turned up against the cap bill when not needed. This visor provides ever ready eye protection, not only from the sun and wind, but also protection when working under aircraft, trucks, and other vehicles and when working with tools that require goggles. Due to the ease in which the visor may be put into use, it is believed that the wearer would tend to use it rather than work without it.

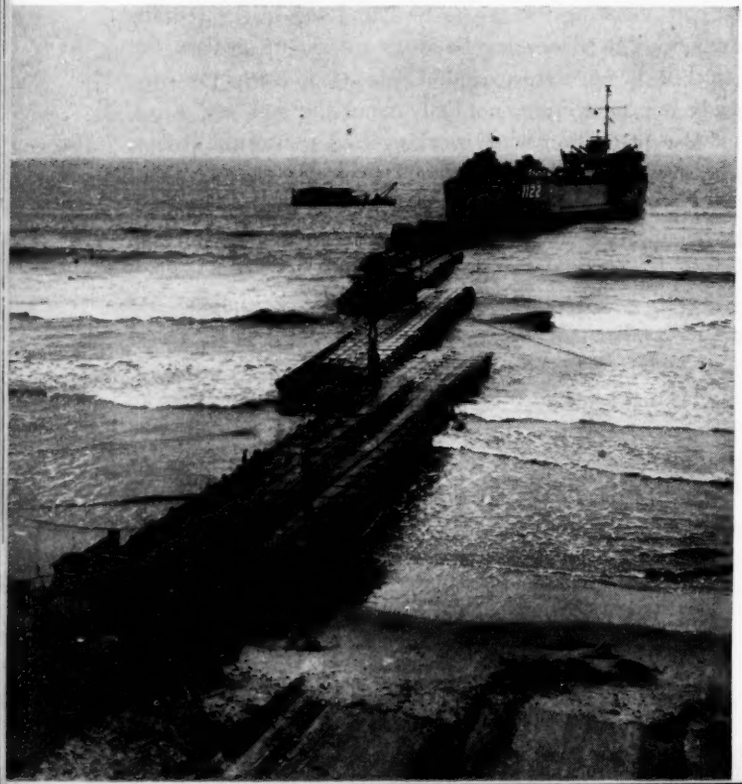
I realize that my experience with this equipment has been very limited and that older hands and wiser heads may scoff at the idea of change in this equipment. It has been my purpose to present these suggestions to all the members of the Marine Corps so that good constructive criticism will be forthcoming. I do not by any stretch of my imagination consider these designs to be perfect, but hope that they may be used as basis for change and revision and eventual acceptance by the Marine Corps as regulation. USMC

MAG 12 Marines "storm" ashore at Aliso Beach. Then they moved to Camp Pendleton airstrip for six weeks maneuvers.

MAG 12 Makes a Landing

Equipment was landed from LSTs over pontoon piers.

Photographs by TSgt Fred G. Braitsch, Jr



Just what is it like, ask the gravel crunchers, when aviation hits the beach? They have a nerve, say some (referring no doubt to Lt Schwaneke's series which is concluded on the preceding two pages), criticizing the infantry's way of doing things. And so, to show that Marine aviation can manage the ship-to-shore jump with a better-than-fair degree of efficiency which might make many a ground unit slightly green, we print this brief resume of MAG 12's role in Operation Demon II.

THE SHOW WAS BILLED AS THE BIGGEST PEACETIME maneuver ever held on the West Coast. The cast included 60 Navy ships, nearly 300 Navy and Marine aircraft, and 30,000 men. It was important enough to attract a considerable gallery of observers, including 500 students of the Army's high-level Command and Staff College who were flown from Fort Leavenworth to the coast in Marine transports. Ground troops were furnished by MajGen

Graves B. Erskine's 1st Marine Division, and, in the air, the Marine Corps was represented by MAGs 12 and 33 from MajGen Louis E. Woods' 1st Wing.

For MAG 12, the problem began some weeks before the arrival of the spectators, with a stiffish program of rehearsals. These satisfactorily completed, the air echelon went aboard the CV USS *Boxer* on 22 September 1948. Flight operations from 24 to 27 September included 300 carrier landings for pilot qualification, requalification, and refresher training. During the three days following there was a Group launch and recovery, three successful rehearsals, and one that fizzled because of low ceiling and visibility.

The curtain was now ready to go up on Operation Demon II. For the first two days of the problem, 4 and 5 October, MAG 12 flew a variety of patrols for Task Force 12: combat air, anti-submarine, and radar picket combat. Also eight Corsairs from MAG 12 joined a Navy demonstration of carrier landings by conventional and jet airplanes aboard the USS *Valley Forge* for the benefit of the Leavenworth guests. More spectacular was a strike flown against the attack transport *Crittenden,* which, along with the war-famed submarine *Skate,* was sent down under the weight of a combined air-sea attack.

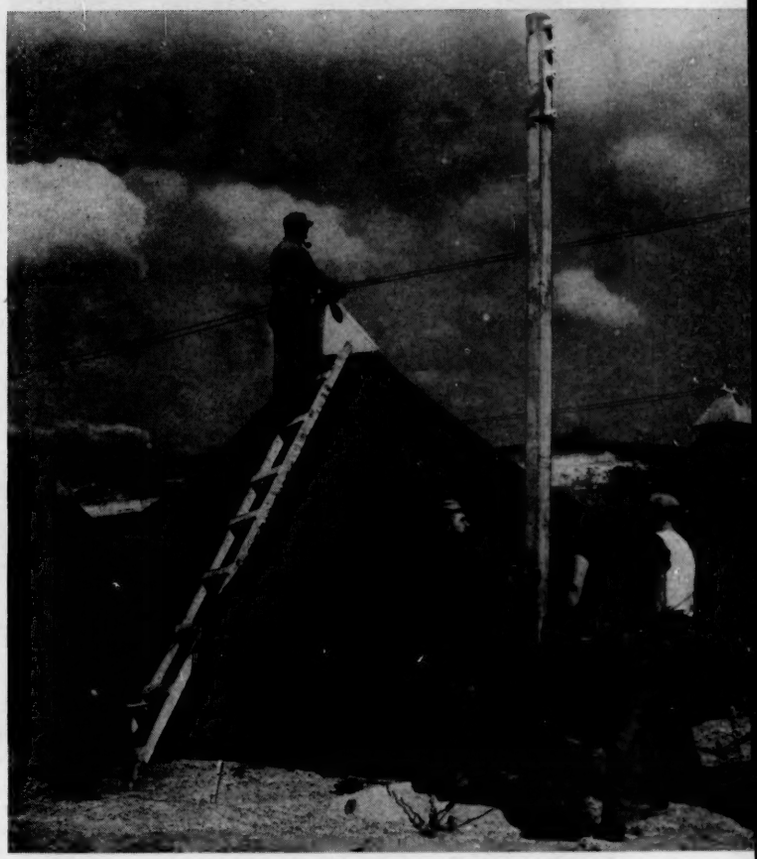
On the next day there was a coordinated strike against San Clemente Island, 54 miles off Oceanside, in support of 1st Division troops on the beach below. On the 7th, the amphibious assault scheduled against Aliso Canyon on the mainland was postponed because of fog which intermittently bothered both the observers and participants in the operation. It lifted somewhat the next day and the beach was successfully taken.

Meanwhile MAG 12's rear echelon had staged out of Seal Beach with all the impedimenta needed to set up an advance base. This was unloaded over Aliso Beach using pontoon piers. Pendleton Airstrip was "captured" by the advancing 1st Division forces on the 11th; MAG 12 began flight operations from it immediately, establishing a temporary tent camp.

During the carrier phase of the problem, 973 sorties were flown without undue incident or injury to MAG 12 personnel. The field operations that followed were also free of accidents, except for a minor fire which caused a brief flurry of excitement. Otherwise, the five weeks were spent learning (or re-learning) how to live in the field and in flying daily strikes which included rocket runs, machine gun attacks, and pin-point dive bombing. Special attention was given to the countering of armored attacks. In some problems the enemy tanks were actually engaged with white-wash filled practice bombs; in other live bombs and ammunition were used against derelict target tanks.

MAG 12 units taking part in the war games included Headquarters Squadron 12, Service Squadron 12, Fighter Squadrons 214 and 452, and Night Fighter Squadron 513.

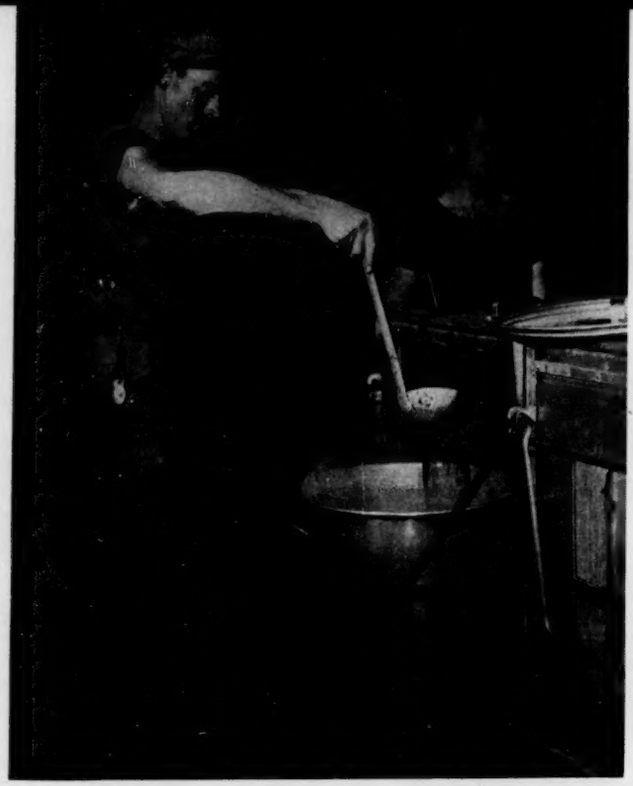
US MC



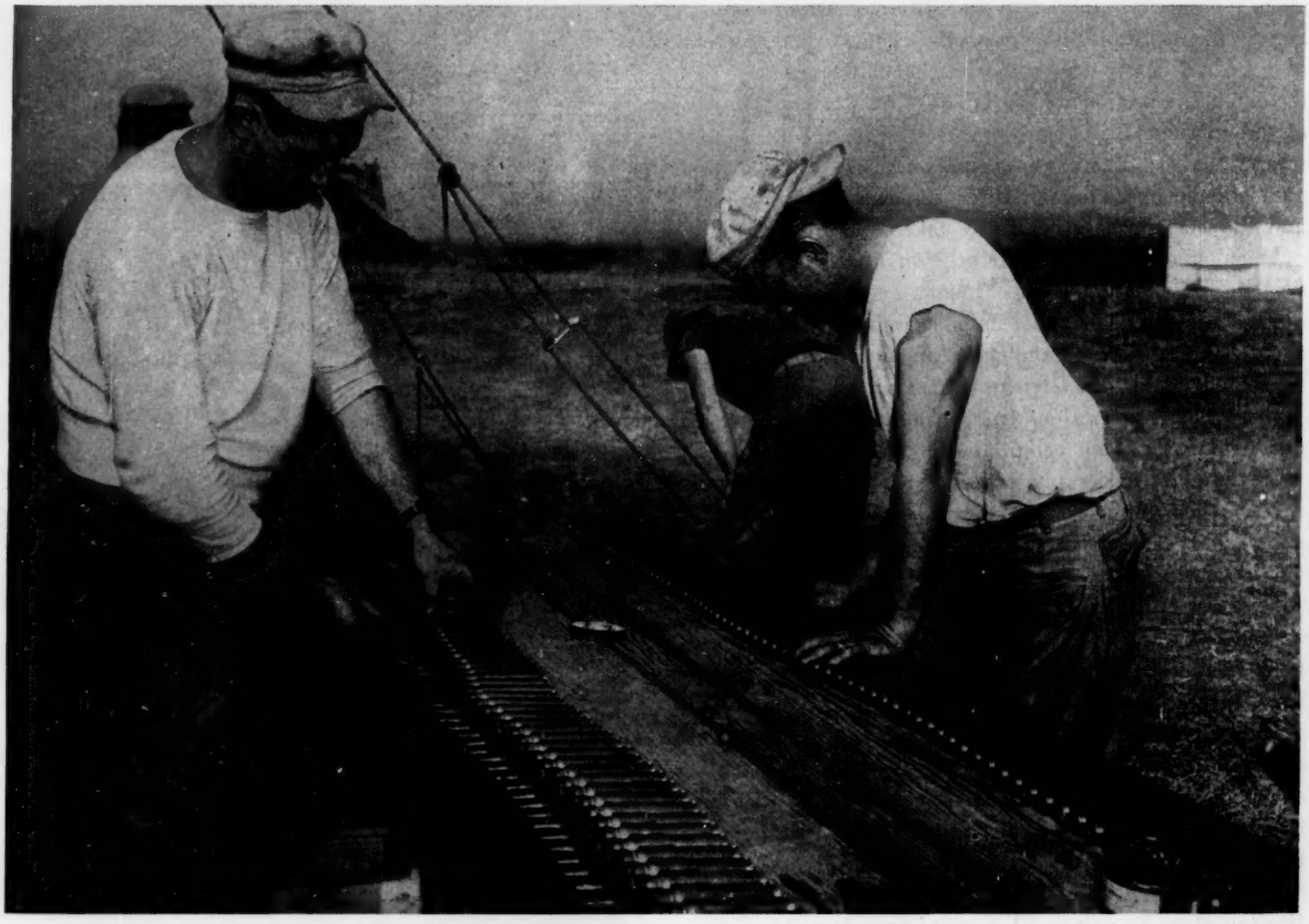
Marine airmen wire in their tents to provide electric lights. Prefabricated units speeded camp erection.

Seem familiar? The finished MAG 12 camp looks like many an overseas rear area camp in World War II.

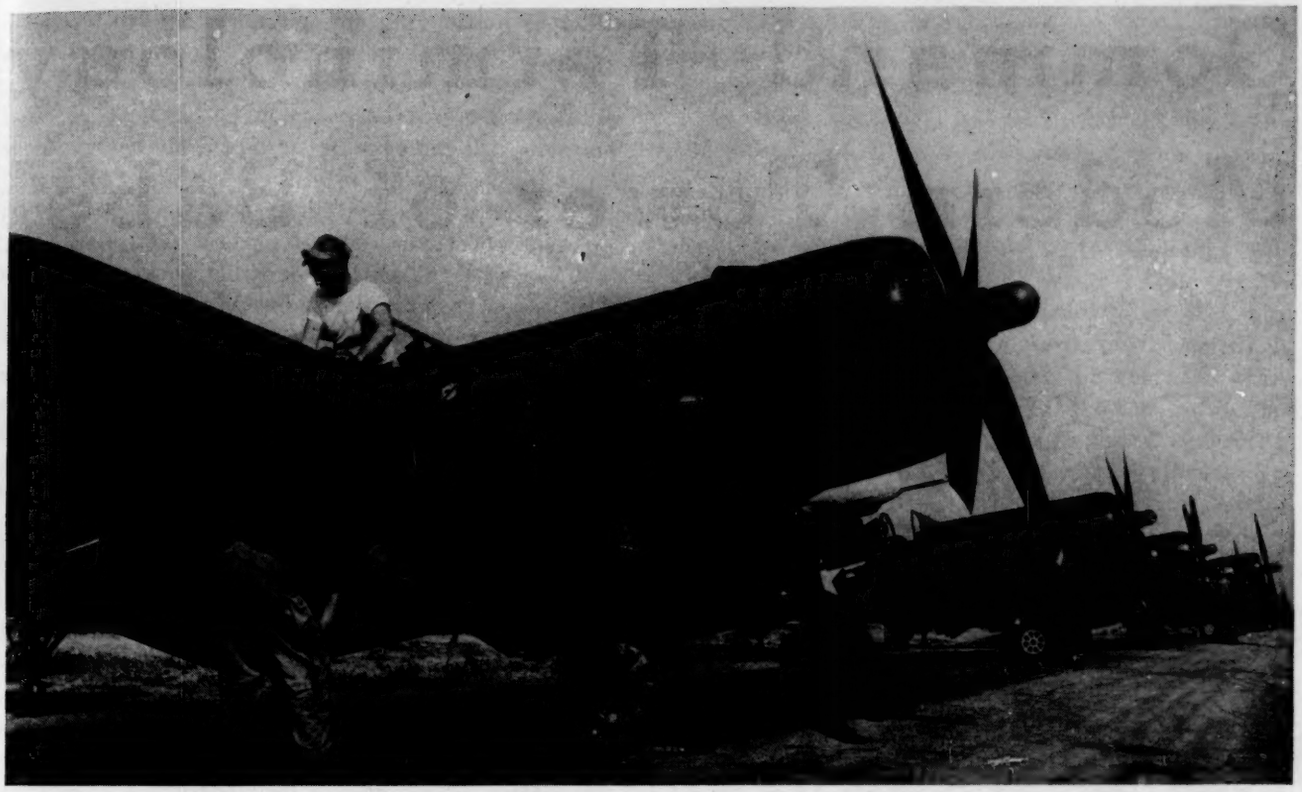
More Pictures



Left: Sgt Danny H. Norris of VMF-513 brews hot coffee in a field kitchen during MAG maneuvers. Right: The warm food must have been appreciated from the looks on the faces of PFCs Homer E. Jolly and Cecil D. Casebir.



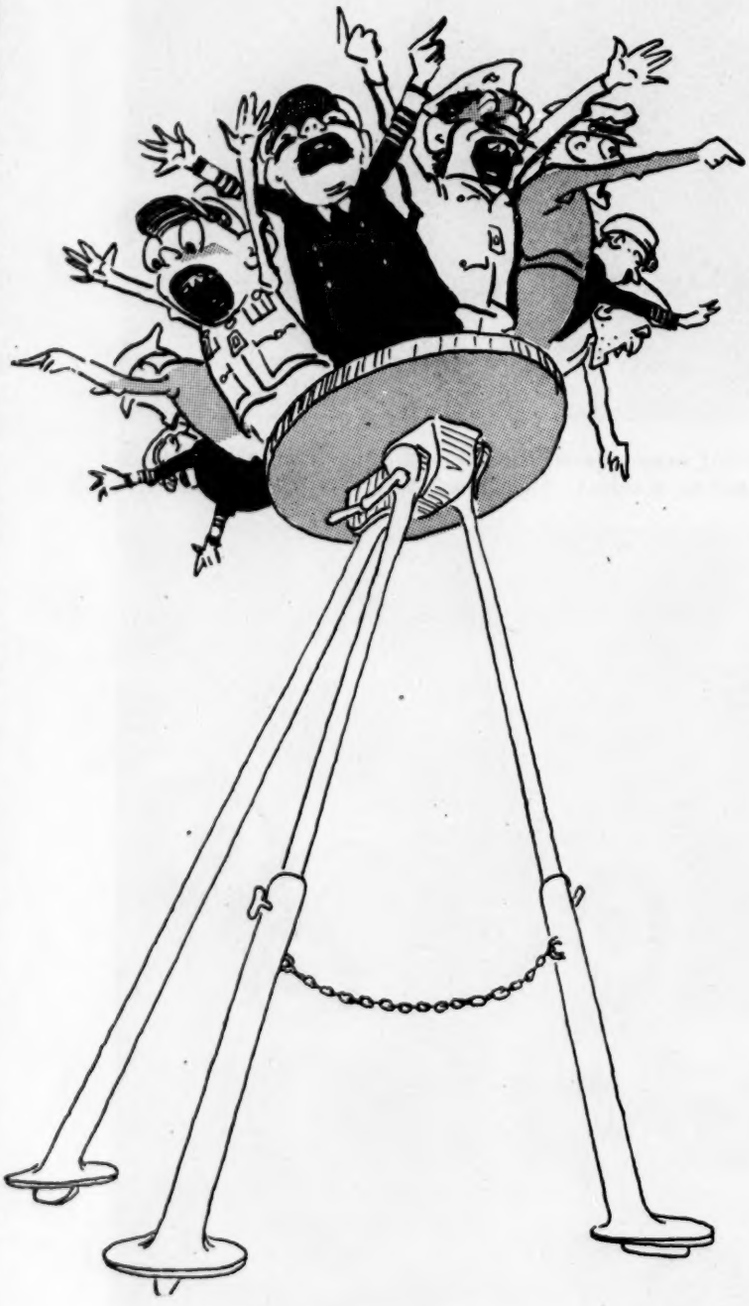
Ordnancemen Cpl L. E. Cummings and SSgt G. E. Oostdam of VMF-452 prepare 20mm ammunition for a gunnery run. The pilots of MAG 12 flew daily strikes which included rocket runs, machine gun attacks and pin point bombing.



Marine mechanics of VMF-214 ready Corsairs for strike against enemy during Operation Demon II at Aliso Canyon. Carrier phase of problem was flown without undue incident or accident. Field phase was also free of accidents.

Fire scatters for hundreds of feet as Corsair pulls out of dive after hitting derelict tank with Napalm. In some problems the enemy tanks were actually engaged with whitewash filled practice bombs by pilots of MAG 12.

Command Terminology Modern Tower of Babel



By Col William F. Coleman

NO PROJECT IN WHICH MORE THAN ONE PERSON IS involved can be brought to a completely successful conclusion if the participants are unable to express themselves in a language, or in terms, that other participants can understand clearly. The Biblical example of the construction of the Tower of Babel is but one of many proofs of this truism. Evidence adduced since the war's end indicates that some of the difficulties the Japanese encountered in coordinating their operations arose from inherent language difficulties which made them unable to state explicitly what was to be done. Knowing these facts we sit back smugly and thank our lucky stars that we don't have that difficulty—that we always say what we mean and always understand what our confreres mean. Perhaps we do, by and large, but it is submitted that in one part of our military language there exists some considerable degree of confusion, doubt, and misunderstanding. This condition exists in that extremely vital part of our military vocabulary which contains our command terminology. And it is in precisely this part of our language that we can afford the least to have any confusion.

What caused this situation to develop is not too clear, but it is evident that it started during the war and has become more aggravated since. There are probably three basic causes. First, the fact that during the war services which previously had existed and operated independently of one another suddenly found themselves closely integrated and working under a common leader. The military language of the one service was not identical with the naval language or air language of the sister services, yet in spite of this the phraseology of each service was forced upon the others by means of distribution of studies, plans, orders, etc., which contained expressions peculiar to the service of which the author of such documents was a member. A second factor can be found in the large influx of non-professional military and naval men into the services during the war. The large majority of these had never acquired a basic military vo-

cabulary and the result was the introduction of much loose terminology. A third cause is becoming more apparent since the war's end and is the one which causes most of the difficulty in command terminology within the Navy and Marine Corps. It is the fact that command terminology designed for use in the very special situations found in Naval Shore Establishments, such as Naval Shipyards, is being used to denote command functions and responsibilities throughout the Navy and Marine Corps at large, including tactical units in the field, as well as other elements of the operating forces.

Navy Department General Order No. 245 is the publication which lists and defines command functions for use in "Naval Shore Establishments." The application of the provisions of this General Order to the service at large is confusing in itself, but the confusion is further increased by the fact that the terms contained therein are loosely defined. They are so loosely defined that commanders in the field are prone to interpret them to suit their individual needs of the moment. Therein lies much of our difficulty.

Navy Department General Order No. 245, lists and defines four types of command functions, or controls, as follows:

a. *Military Command* is the authoritative direction exercised over activities of the Naval Establishment in Military matters together with the power to exercise authoritative direction in all matters when circumstances dictate.

a. *Coordination Control* is that necessary direction of separate units of the Naval Establishment to insure adequately integrated relationship between all of these units.

c. *Management Control* is the direction exercised, in other than military matters, over a unit of the Naval Shore Establishment in the routine administration and control of its local operating functions.

d. *Technical Control* is the specialized or professional guidance exercised by an authority of the Naval Establishment in technical matters that have been assigned to that authority.

A careful study of these definitions will show at once the fallacy of trying to employ them for tactical organizations in the field as well as for various shops and other industrial activities of a naval shipyard. For example, to a ground force commander the term "military command" implies complete authority over his command in all matters whereas the definition given in (a) above indicates that his authority is something less than complete and nominally extends only to "military matters." But, to a ground force officer what are military matters? By accepted teachings they include matters of training, organization, tactical employment, discipline, and administration including logistics. In short, military matters are all matters pertaining to a military command and a military commander exercising military command must of necessity exercise authoritative direction over his unit in all matters at all times.

As stated before GO 245 is written specifically for use in dealing with naval shore establishments. In spite of this, the terms are used constantly in dealing with the operating forces of all services in the field. One high command employed these terms in dealing with field units and at the same time stated, "While GO 245 defines relationship of shore activities within the Naval Districts, it is not desired to make its provisions strictly applicable to shore activities under this command which are outside of naval districts." In other words, this commander used the terms given in the General Order with the qualification that they were not strictly applicable. Imagine, then, the confusion existing in the mind of a subordinate. And still further, imagine the confusion in commands or headquarters in other theatres who receive copies of this commander's orders and who may have their own ideas as to what the terminology employed means.

IN ADDITION TO THE TERMS listed previously other terms are used for which definitions available to all hands do not exist. Nor is there much evidence that some of these terms have more than local usage, but inasmuch as copies of correspondence employing these terms are distributed far and wide the terms, but not their meanings are given wide dissemination. Recipients are left to guess at what is meant.

The following are some of the terms employed.

Operational Control—which is defined in classified publications—therefore, theoretically at least, the definition is not available to all officers. From the way this term is employed in various commands it is obvious that different commands have different understandings of its meaning. Naval commanders do not consider training functions included in the term whereas ground force commanders contend that operations and training go hand in hand. Thus, here is a term with a meaning acceptable to one service but not to another and yet the term is used by naval commanders in dealing with ground forces assigned to their commands.

Administrative Control—this term used to be defined in the publication which was the forerunner to GO 245, but the latter eliminated the term. However, it is still widely used and can be found in dispatches and orders. A recent order issued by a Naval Command to a Fleet Marine Force unit assigned administrative control of a certain shore establishment to the Fleet Marine Force unit. It then defined this administrative control as follows: "This control, which is in general similar to management and technical control as defined in GO 245 will permit the exercise of direction over the units' routine administration and control of its operation functions."

The startled reader of this order immediately started wondering how operations got mixed up into administration but there it is.

Logistical Control—this is a term found in correspondence with frequency, but is contained in no accepted lexicon or list of definitions. Although the meaning should be apparent there is no standard, accepted definition so each reader forms his own definition. This allows considerable confusion to creep into the picture. The argument has been advanced that this term should never be employed inasmuch as logistical control is a function of military command and cannot be separated from it.

Tactical Command—This term has been employed by aviation units. One aviation unit's operation order told a certain commander to "exercise military command and tactical command" over certain units. Again the question arises as to what is meant by "Tactical Command" and how is it separated from "Military Command?" The answer to that question is not contained in any standard publication.

To give a vivid illustration of the dilemma that commanders can find themselves in because of the use by higher authority of command terminology the meanings of which are not entirely clear, the following actual example is cited. There is, in the United States, a Marine Air Station which is a part of a larger command. This air station at one and the same time was under the operational control (for defense purposes) of the Commandant of the Naval Area Command, under the military command and coordination control of the local post commander, under the administrative control of Marine Corps Headquarters and under the technical control of the Bureau of Aeronautics. To further complicate matters, management control of this air station was subdivided between Marine Corps Headquarters and the Bureau of Aeronautics. It can well be imagined that the station commander's first question to his staff each morning was "Well, gentlemen, for whom are we working today?"

Officers who have served at this particular station stated that they were never quite sure to whom to address official correspondence. And quite often after the definitions of the various types of command had been considered and an addressee chosen, it was found that the addressee had a different understanding of his particular responsibility with respect to the air station and took no action on the correspondence, or directed that it be referred to some other commander with resulting loss of time and effort.

THE EXAMPLE JUST GIVEN is not unusual but is descriptive of similar cases that exist throughout the services today. The net result of such a condition is that a commander is never quite sure to whom he is responsible for what, and more important, of what his own responsibilities to his command are.

Conditions such as those just described cannot be cured by writing about them or by "griping" about them. Correction of such conditions requires action stemming from the top. And such action cannot be unilateral with any one service. Inasmuch as the closest coordination among the various services is required by modern warfare it is imperative that we have an adequate military vocabulary for common use and that the "compartmented" terminology still in use by each service be eliminated. It is believed that one solution would be to assemble a joint board charged with the task of preparing a joint services military lexicon. Primary emphasis should be given to the mission of clarifying command terminology, particularly that which is to be employed for tactical units. An effort should be made to establish a military language which can be used with equal facility in dealing with both tactical and non-tactical units. The fundamentals of command relationships and command responsibilities must be re-affirmed and kept in plain view during all efforts to establish sound terminology and definitions. For example, it has always been axiomatic with ground combat units that tactics and logistics go hand in hand. The commander responsible for the tactical employment of troops must have the responsibility for their supply since his tactical decisions will be greatly influenced by the logistical support he can give any contemplated maneuver. So, expressions which attempt to separate a commander's tactical responsibility from his logistical (administrative) responsibility must be avoided.

SIMILARLY ground forces have always included training functions under operations. But the present definition of "operational control" specifically excepts training, and the Navy has always considered training as a type command administrative function. Here, then, is another point that should be clarified in any new definitions that are established.

The finished product submitted by a board as suggested above probably would be full of compromises and perhaps new terms. In view of the fact that in another emergency all services would again be expanded tremendously by influx from civilian life it would be highly desirable that, as far as possible, common civilian expressions be substituted for that present military language which is not commonly understood by any hearer. And finally, once the results of such a board's work are approved, there should be an educational program established in all services to insure that the new terms are substituted for inadequate existing terms, that the new terms are thoroughly understood, and that they are correctly employed. It will be a Herculean effort but it will be well worth while. USMC

Career Management for Enlisted Marines

By LtCol Bryghte D. Godbold and Maj Howard F. Uphoff

Last month LtCol Godbold and Maj Uphoff discussed plans for inaugurating a career program for enlisted men. They stated that the Marine Corps must offer work that is challenging and interesting and yet in keeping with capabilities. This month the authors propose Career Training for all men entering the Marine Corps. Exhaustive tests for aptitude would be made in boot camp and the individual assigned to school or duty commensurate with his interest and ability.

IF THE MARINE CORPS IS TO HAVE A CAREER MANagement program, we must de-emphasize our traditional slogan of *Travel, Adventure, and Education.* We should continue to use travel and adventure as incentives because they are never failing attractions for certain types of desirable individuals; however, it is believed that they should be subordinated to other more universal appeals. As will be explained later, it is proposed that *career training*, that is, thorough, high-level training in the particular Marine occupational field for which the man has the most aptitude and interest, be substituted for education as a recruiting inducement. Our greatest stress must be placed on "A Marine Corps Career." Every media must be employed to sell the general public, honestly but eloquently and continually, on the fact that the Marines offer the intelligent young man an interesting and rewarding career in a wide variety of fields of work.

At present we emphasize educational opportunities for marines, both cultural and vocational, through courses in the Marine Corps Institute and the U. S. Armed Forces Institute. Admittedly, such correspondence courses are beneficial, but in relative numbers not many marines actually complete high school in the service or become highly proficient in a trade through such study. Basically, cultural education is within the province of our public and private schools and universities. It is an excellent idea to have marines improve themselves intellectually, and we should have such facilities for those who desire to do so, but the Marine Corps is not the most suitable atmosphere in which to obtain a high school diploma. There are too many distractions, study facilities are not adequate, and time spent in studying academic subjects that are unrelated to Marine Corps jobs is time that could be employed more beneficially in making the men more efficient marines. A program to widen the intellectual horizons of the enlisted men is commendable, but it conflicts in many respects with our fundamental mission of moulding a highly efficient fighting force. The complexity of modern warfare requires that each man be a skilled technician, whether he is an infantryman, aviation mechanic, photographer, or radio operator. The technical and military training of such highly skilled personnel is a full-time job.

The Marine Corps should concentrate on such career training, but it must be closely aligned to the Occupational Field of the individual and must be an inherent part of career management. We should be in a position to tell the public that we offer the young men of America the finest training available in many fields of work. Furthermore, we should advertise that every recruit is allowed to select his career field restricted only by his aptitude for such work and the existing vacancies. We must offer men on-the-job training, self-study courses and formal schools—all covering phases of Marine Corps jobs. Marines will not be restricted to these self-study and correspondence courses which pertain to their jobs, but will naturally concentrate on such schooling because they will know they must take written examinations for promotion.

If we implement a practical career training program as outlined above, it is believed that educators will give

Part II: The old recruiting slogan of "Travel, Education, and Adventure" should be modified to stress the fact that the Marine Corps offers the intelligent man an interesting and rewarding career in a wide variety of fields of work

it whole-hearted support. They can be of invaluable assistance to the Marine Corps if we convince them that high school graduates who do not intend to go to college can find an interesting, instructive, and remunerative career in our branch of the service. Vocational guidance counselors could present to their students the occupational advantages offered by the Marine Corps along with the advantages of comparable civilian careers. It is generally agreed that we would like all our recruits to be high school graduates. It is highly probable that we can enlist large numbers of these young men if we can convince their school superintendents, principals, teachers, and counselors that the Marine Corps has excellent career opportunities.

In publicizing the career management system, with planned career training as one of its aspects, we must stress that such training is designed primarily to further a marine in his work in the Corps. Of course, we will continue to tell applicants that in case they desire to leave the service after an enlistment, the Marine Corps training will be of invaluable assistance in a similar civilian job; however, it must not be forgotten that the paramount reason for in-service vocational training is to train marines for Marine careers, not civilian careers.

To CARRY OUT CORRECTLY a career management program for enlisted marines, career planning and guidance services must be provided. The classification system as it now exists provides an effective basis upon which to build.

At the Recruit Depot all newly enlisted men should be given a comprehensive series of aptitude and interest tests and an interview conducted by trained personnel, as mentioned earlier. To accomplish this screening process, sufficient time and facilities must be provided. Due to the importance to the individual marine being processed, tests and interviews should be conducted under as nearly ideal conditions as possible. Recruit Depot personnel should clearly explain to the new marines the use of the results of the screening. In addition, information in the form of motion pictures, posters, talks, and other instructive devices should be supplied to familiarize recruits with the types of jobs that exist in the Marine Corps.

Career planning and guidance facilities must also be set up at such large stations as Camp Lejeune and Camp Pendleton for interviewing and making occupational field assignments subsequent to the six months indoctrinational training in the Fleet Marine Force. As at Recruit Depots, this procedure must not degenerate into a routine administrative detail through which all marines are rushed as rapidly as possible. Each marine interviewed must be made to feel that his career problems are important, that he is being considered as an individual, and that every reasonable effort is being made to see that he is satisfied.

All stations of reasonable size should have at least one career guidance technician to care for the career needs of local personnel. These technicians should be available for advice to marines on all phases of career planning, such as availability of self-study and correspondence courses, eligibility for schools, promotion opportunities, and the possibilities of assignment to another occupational field in case of inaptitude for the currently assigned field. They should be utilized as extensive as possible by personnel officers and commanding officers to solve the career problems of individual marines.

Although aptitude tests are now being administered for classification purposes, a series of new tests should be developed or adopted which will measure not only over-all mental ability, but also aptitude for different types of work, such as clerical, electrical, mechanical, computational, etc. In addition, a test is needed to measure interest in the various occupational fields, since the expressed interest of youths does not correlate highly with their actual interest.

Career guidance officers and enlisted men will be required to assist in the operation of the program. Classification personnel could be trained in a relatively short time to take over this function.

If a Marine Corps career management program is adopted, it will be necessary to broaden the training of recruiters. This additional training should consist principally of information on the details of the operation of the system.

In the education of recruiting personnel it must be stressed that their job is essentially one of selling. They must realize that, just as in civilian sales, high pressure or misrepresentation does not pay off in the long run. An effort must be made to give as favorable a picture as possible, of course, but it must be truthful. Exaggerated promises must not be made. It would be unfair, for example, to promise unreservedly that an applicant will be assigned to a particular occupational field when he may not have the required aptitude or when no vacancies may exist. It would be more beneficial and economical to lose a recruit than to have a dissatisfied and disillusioned marine. The recruiter's job, in large part, is to sell the applicant on the scientific basis of career management and the fair manner in which it operates, rather than to lure men into the Marine Corps on the promise of a specific assignment.

IN ADDITION to its own schools, the Marine Corps sends men to various Army and Navy technical schools. Practically all of these schools are excellent and do a satisfactory job of training marines for specialized duties. Under an enlisted career management system, few changes would be necessary in our schools program; however, a few comments on its operation are considered

worthwhile.

Insufficient information is now furnished the individual marine concerning school opportunities. Sufficient numbers of men are not volunteering for school training, and often non-volunteers are detailed. As a result, the attrition rate is excessively high. Informational talks and posters could be utilized to insure that every man is informed of the details of all available schools. Headquarters Marine Corps should see that all commanding officers are kept currently informed concerning the abolishment and establishment of schools, the requirements for entrance, and other pertinent facts. Commanding officers, in turn, should see that such information reaches the troops and is not simply filed upon receipt.

In addition to passing up-to-date school information to members of their organizations, commanding officers should check to see that all interested eligible personnel are provided the opportunity to submit requests for schools. Men should be encouraged to apply for schools, and the submission of applications should not be made difficult by organizations in the field.

TO CONTROL and coordinate all facets of a career management program, a central agency is required at Marine Corps Headquarters. To accomplish this, no major reorganization would be required, but an integration of some personnel functions would be necessary. While recommendations concerning the detailed organization of such an agency are beyond the scope of this paper and could most effectively be done by a board of officers, several considerations that should be taken into account will be briefly discussed.

The organization should have a distinctive and descriptive name, such as the Career Management Division, so that each enlisted man would know that a special unit is located at Headquarters to look out for his interests—his promotion, his assignments—in short, his career. The unit must have readily available accurate data on individuals — historical or background information, test scores, service schools attended, jobs in which qualified, and so on. Such information has varied uses in career planning, including: selection for promotion, reclassification, transfer and schooling. This would make it possible to transfer individuals by name down to and including the rank of sergeant.

Accurate and up-to-date statistical information is a necessity. It must be furnished to control the flow of marines into and between the various occupational fields and to provide the recruiting service with information as to future career opportunities for enlistees. Such information will allow computation at regular intervals of the number of vacancies in each pay grade within each occupational field. Also, the Testing and Educational Unit must be notified of the numbers of each test required and the stations to which specific tests are to be forwarded.

If adopted, carefully planned, and conscientiously carried out, the proposals incorporated in this article would tremendously increase efficiency and morale. Admittedly, some phases of the plan represent a wide departure from traditional Marine Corps personnel practices, but they are based on sound principles of scientific personnel managament. Furthermore, all features have been successfully employed in one form or another by industry, business, or other government agencies.

THE AUTHORS wish to reiterate previous statements to the effect that the suggested changes in enlisted personnel procurement, training, transfer, and assignment will not result in a Corps of specialists *per se*. On the contrary, the program will provide that every recruit be trained as an all-round marine prior to specializing. In addition, marines of all ranks, and regardless of specialization, will periodically have to review their basic military knowledges. In effect, this will serve to reinstate into the "real" Marine Corps certain categories of personnel who lose practically all contact with and sympathy for the major objective of our organization. Also, this is not a system designed to pamper enlisted men, but one that is essential if we are to make a service career attractive to the type of individual the Marine Corps needs.

In spite of all Headquarters could do in devising a well-planned, detailed, and scientifically-based enlisted career management system; in setting up machinery to control and coordinate it; and in training personnel to provide expert assistance to field units, such a system would not be effective unless officers and senior noncommissioned officers understood and supported it. It is obvious that a program of this magnitude would involve considerable effort in its institution, and, at best because of its complexity would probably require some minor adjustments during the first few months of its operation. Even so, it is believed that it is necessary to depart from previous procedures in order to improve individual and unit efficiency, enhance morale in the postwar Marine Corps, and maintain the prestige of the Corps as the elite branch of the Armed Forces.

The Army, Navy, and Air Force are leaving no stone unturned in searching for methods of enchancing the career opportunities within their respective services. It is predicted that the pressure of events will eventually force the Marine Corps to adopt a career management program. We possess a much better foundation than any other service upon which to establish such a system; and are, in actuality, moving toward that goal, although in a rather uncoordinated manner. Why not integrate all the steps now being taken, provide the additional needed procedures, and institute an enlisted career management program immediately? USMC

In Brief

A new all-time high safety record for aircraft flown by Naval Air Training Command pilots was announced recently by the Chief of Naval Operations. During the period from September 4 through November 4, 150,000 flight hours were flown without a fatal accident. The record is in contrast to an average fatal accident rate of about 8.55 per 150,000 hours established in the two years following the close of the war.

Ghostlike robot ships loaded with high explosives which could rip up enemy beach defenses or crawl over the beaches like primeval monsters were among the secret weapons prepared near the end of World War II, the Navy announced recently. Lifting the lid on "Project Stinger," a war-time secret program, the Navy said it had prepared radio controlled, unmanned drone craft varying in size from big cargo ships to small amphibious sea sleds. These robot vessels, guided with the help of television cameras and other electronics devices, were to be used in amphibious campaigns such as the projected attack on the home islands of Japan.

The Navy has approved a Marine Corps request that Marine Corps Reservists be permitted to participate in group training consisting of interim week-end training cruises aboard ships assigned to District Commandants for Naval Reserve training. Whenever such a cruise is planned and marines can be accommodated, the District Commandant and Marine Corps District Director will confer to arrive at a satisfactory apportionment of available space and billets.

The technique of reversing the pitch of propellers to enable multi-engine aircraft to descend safely during an emergency at rates exceeding 10,000 feet a minute was recently demonstrated to Air Force and Naval officials by Curtiss-Wright Corporation at Caldwell, N. J. Culminating approximately 10 years' experimentation, the development of the new application involves reversing the thrust of the propellers on an aircraft in flight. The procedure permits a pilot to almost double an aircraft's rate of descent without increasing forward speed or imposing an extraordinary stress upon the aircraft.

The first successful self-starter for jet and turboprop aircraft engines has been developed by the Navy Bureau of Aeronautics and the AiResearch Manufacturing Company, Los Angeles, California. The new self-starter system utilizes as its major component a newly developed small gas turbine weighing only 88 pounds. Highly compressed air is bled from this turbine to operate a high-speed air turbine starter unit, which is attached directly to the jet or turboprop engine. The new self-starter will allow jet or turboprop aircraft to use out-of-the-way bases which are not equipped to start their engines. It requires only a three-quarter horsepower motor and one storage battery for its own starting.

For the purpose of official designation, women entering the Regular Marine Corps under the provisions of Public Law 625, 80th Congress, which provided for women as a part of the regular military establishment, shall be referred to as "Women Marines," Marine Corps Headquarters announced recently. Although their official title is that of "Women Marines," the designation "U. S. Marine Corps" will apply to the women as well as to men when used after a name.

Navy Transport Squadron 23 operates what is perhaps the world's farthest flung airline. Bases of VR-23 (Navy official designation) are scattered all around the perimeter of the world's largest ocean—at San Diego, San Francisco, Seattle, Samoa, Guam, Kwajalein, Shanghai, Tsingtao, and Sangley Point, P. I. The squadron's mission is to serve the hundreds of isolated regions not on the main line of the Military Air Transport Service. The planes carry passengers, mail, and cargo to areas where often there are no established land and sea bases.

Another step in the unification of the armed forces became effective on November 15, 1948, when the Hawaiian Armed Services Police Detachment officially began operations. The new unit, a combined police force utilizing members of the Army, Navy, and Air Force, will be responsible for all military and naval police functions outside of posts, bases, and stations. Military police, shore patrolmen, and air police assigned to the unit will have full police authority over members of the three services irrespective of the branch of service of the military policeman.

Thirty crews every three weeks—pilot, co-pilot, and enlisted flight engineer—are being graduated from USAF's "Little Vittles" training base at Great Falls AFB, Montana. To speed up reinforcement of the Berlin Airlift crew replacement schedule, a continuous training cycle on a 20-hour basis is maintained despite the bitter cold of Montana's winter. Most of the men making up the classes, with a new class starting each week, are veterans of World War II called back to active duty.

A record wind tunnel speed of 3,960 mph, one of the first important steps in Navy's development of weapons for use at supersonic speeds, was recently revealed by the Navy Ordnance Laboratory. An air speed of mach number 5.18, or more than five times the speed of sound, was achieved November 24 at the White Oak, Maryland, Laboratory using a modernized captured German supersonic test tunnel.

A combat ration, developed by the Army Quartermaster Corps since the end of World War II, is now being procured for use by the Army in field operations. The new ration officially designated "Ration, Individual, Combat, C-4," was approved after extensive tests with troops showed that it was superior to the old war-time C Ration. The C-4 ration consists of six different menus packed in a container weighing 40 pounds. The package can be delivered by air, truck, or pack animals. The six menus contain nine different meat items, six fruits, and three bread-unit assemblies. Cigarettes and soluble coffee with ascorbic acid for vitamin supplementation are included, and candy-coated chewing gum is substituted for the slab-type.

A 24-inch test gun, largest known gun of its type, has been placed in operation at the Naval Proving Ground, Dahlgren, Va., to test bombs and guided missile warheads and their fuses. The new gun will shoot bombs and warheads as heavy as 2,000 pounds against armor plate and concrete targets at supersonic velocities. The effect of the impacts on the missiles and their components will be measured and analyzed, permitting the armed forces to expand their research and development work in the field of ordnance testing. The gun is available for test firing by all armed forces of the United States.

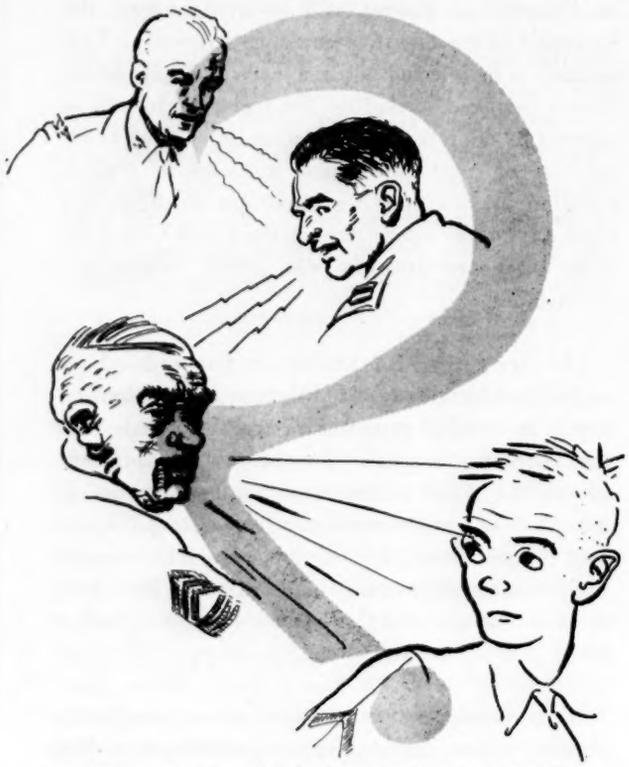
The 17th Coast Guard District in Alaska, with headquarters at Juneau, will be reestablished, the Secretary of the Treasury announced recently. This location was selected after a careful study of all factors involved, including the fact that Juneau is the seat of the territorial government and the headquarters of most government agencies in Alaska. Location at Juneau is an important consideration since day-to-day operations of the Coast Guard require close coordination with other Federal authorities.

The Army revealed recently it has ordered an undisclosed number of 3.5 inch bazookas as the first step in its 1948-49 program for training troops with new improved weapons. The new rocket launcher, adopted by Army ordnance a few months ago, is described as having more punch and longer range than the war-time 2.36 inch bazooka. The weapon, which has approximately the effect of a 75mm gun, is used against tanks, machine gun and mortar nests, and pill boxes.

An automatic weather station that can send radio reports on temperature, pressure, relative humidity, wind speed, wind correction, precipitation, and sunshine intensity, has been developed by Signal Corps scientists, working closely with the Wind Turbine Company of West Chester, Pa. The automatic station incorporates the use of modern electronics with the age-old windmill. At the station, a wind-driven generator charges a bank of storage batteries which in turn operate the automatic weather signals. If current experiments are successful, the weather stations will be placed in near inaccessible corners of the world and allowed to run themselves.

Reactivation of three former Army air bases and the withdrawal of two others from surplus was disclosed by the Air Force recently. The bases at Las Vegas, Nevada; Mountain Home, Idaho; and Savannah, Georgia; are the bases to be reactivated in the near future. The installations to be withdrawn from surplus are located in Kansas City, Kansas, and Shreveport, Louisiana. An advanced single-engine training program is scheduled for the AFB at Las Vegas. Operations are expected to get underway about March 1. Mountain Home AFB will be the base of a geodetic squadron, while the Chatham AFB at Savannah will be used by the Strategic Air Command.

The Human Factor in Modifying "THE WORD"



By LtComdr Harold A. MacNeil, ChC, USN

WE HAVE ALL MET AND DEALT WITH THE FELLOW who did not get "the word." Believe it or not, we have all been guilty of modifying "the word" or, as the newspapers are often charged with, "slanting" the word according to our personal interpretation.

I was on duty at a station in which the rotation of commanding officers brought about a change of policy which was diametrically opposed to that which had been in practice for over two years. At the first staff conference the new commanding officer announced his new policies and his plans for their being carried out. After the meeting we informally grouped for the customary rehash and informal bull-session. One of the senior staff members publically stated that the new commanding officer's policies would not work. This was more than an outspoken statement of opinion; it was a modification of the commanding officer's policy by one who was responsible for carrying it out.

This problem of modifying "the word" is not limited to the military alone. It is not intentionally carried out by any particular level of status or rank. Today it presents itself as one of the basic problems of labor relations and industrial management. Industrial sociologists, labor experts, personnel men, and administrators, along with many others are aware of the acuteness of this problem. It is as cogent a problem for the military and it deserves as much attention as is given to it in these other fields.

One of the chief studies in this field of intangible factors in the every day work situation has been the Research Program conducted by the Western Electric Company's Hawthorne Works in Chicago, Illinois. These investigations began over two decades ago. Many types of research took place but for the purpose of this paper only certain of the primary factors will be considered.

The workers were divided into two groups for the first experiment. There was the "test group" in which the conditions were variable, and the control group in which the conditions of work remained as constant as possible. The first experiment was concerned with the effect of the illumination intensity on the efficiency of the workers. These two groups were performing the same operation, winding small coils. The groups were placed in separate buildings in order to reduce the spirit of competition. The tests began and the intensity of the light in the "test group" was varied from day to day. Some days it was increased, other days they were led to think that it had been increased while all the time it remained constant. Some people even commented on the better illumination when actually there had been no change. In one experiment the light was cut down to that of moonlight, or to 0.06 of a foot candle, and still the workers maintained their efficiency. What was the story? To the astonishment of the investigators it was discovered that there was little correlation between the efficiency of output, and the intensity of the light. There were some extraneous factors entering into the situation which the investigators were not counting on finding. In fact, they were not wholly satisfied with the experiment and decided to continue their investigations.

The next experiment was the Relay Assembly Test Room investigation using two separate groups of five girls. The idea of this test was to measure the effect of certain physical changes on a work situation. The investigators attempted to keep the variables which enter into such a test at a minimum. The work of each girl consisted of assembling a telephone relay which was made up of 35 parts. The job took about one minute and required some finger dexterity. During this experiment there were 13 changes introduced in the conditions which surrounded this job. The girls were given rest periods. They

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How can the modification of "the word" be kept to a minimum? First it must be recognized as being social in nature. When persons work in a wholesome pleasant situation they get things done well. One then finds morale at its top level

were instructed to work without the feeling of being watched, or that they were not under pressure. The lunch hour was made pleasant and the company provided lunches. This plant with this group was one of the first to go on a five day week. The output gradually climbed and the girls seemed happy as they felt that management was concerned about them and their work. The experimenters then decided that they would go back to the old working conditions and withdraw many of the privileges such as rest periods and a five day week. The investigators expected the output to drop but this was not the case. The output remained at its new high level in spite of the withdrawal of these special considerations on the part of management.

The investigators were coming to realize that management had been making mistakes in the past and had been going on the false assumption that if technological changes were made then it would necessarily follow that there would be output changes. The Relay Assembly Test Room showed them beyond a doubt that there were other factors entering into the picture which they had never counted on. They were becoming convinced that there was a human factor in the situation and that the mistake of the past was this disregard for the human factor.

THE NEXT STEP which followed was that of interviewing each worker. This was a mammoth task when one considers the size of the Hawthorne Plant. It was worthwhile as it revealed the importance of the human factor in the work situation. This something new was the workers' attitude, sentiments, or how they felt about the work situation. They discovered that how people feel about their job is important, and, that these feelings help to mold a highly organized informal group within the group which is formally employed by the company. These informal groups are not just a number of isolates, but a well organized social group who react according to their personal feelings rather than to the logic of management, or those at the top.

What does this all mean for the military? First, there is a very definite social structure among the ranks and the rates in the service. Second, as in industry these groups are strongly motivated by their sentiments or attitudes. They do not necessarily "gang up" in groups of all one rate or rank to modify the word or on the other hand to increase output. An informal social group at work in the military might include many high ranks and many low rates, but as a work clique they can inhibit a project or really "put it over." As for further consideration it might be noted that these groups do not always react to the logic of change in the way which that change is intended when initiated at the top. Due to their sentiments they may accept the orders from the top, they may be hesitant, conservative, recalcitrant, or they may go so far as to negate these orders. This is a clear cut modification of the "intended word."

I think that the above statements might be illustrated in two incidents. When the J Tables were about to go into effect there were all types of comments as to their value and some people believed they could never get used to them. Others modified the word by complaining that there would be H Tables, I Tables, etc, etc. Or take for example the type of first sergeant who passes personal judgment on all discharge cases, allotment inquiries, and overseas details. These sentiments mold not only personal but group reactions. Any abrupt technological change which does not take into account the human and social factors meets with the same responses. It is well then to take into account when desiring to get the word down to the lower levels to prepare it in such a way that the social factor and reaction is considered. F. J. Roethlisberger in speaking of the language of efficiency when it concerns the social structure of industry says, "There is no better example than the case of the language of efficiency. The top of the organization is trying to communicate with the bottom in terms of the logical jargon and cold discriminations of the technical specialist, the engineer, the accountant, etc. The bottom of the organization, in turn, is trying to communicate with the top through its own peculiar language of social sentiments and feelings. Neither side understands the other very well. To the bottom the precise language of efficiency instead of transmitting understanding, sometimes conveys feelings of dismay and insecurity. The bottom, in turn, instead of transmitting successfully its fears of social dislocation, conveys to the top emotional expressions of petty grievances and excessive demands.[1] This entire problem faced the Army especially in the Mauldin cartoons and in YANK. A few concessions were made such as the same uniform, to a certain extent, with everybody happy in the Eisenhower jacket. The entire problem however was not met or understood as it essentially presented itself.

The NCO is often placed in much the same position as the foreman of industry. He has to talk out of both

[1]Roethlisberger, F. J., *Management and Morale*, Harvard University Press, 1946.

sides of his mouth. The foreman has to please management and convey its desires down the line of communication to the worker and at the same time he has to get along with the worker who can frustrate the wishes of management. All who come in between these two extreme levels, the top and the bottom, are people who can frustrate or modify "the word" either openly or surreptitiously. These new studies show how people resist change, and although orders from the top seem logical to the top, yet there is the human factor through which these orders are strained.

THE OLD ATTITUDE toward this problem was the classical answer, "You are a marine, you are not supposed to think." Every order and command is not interpreted according to the logic of the one commanding, but according to the sentiments and attitudes which the hearer brings to the situation. People are constantly expressing the problems which arises from trying to motivate this new generation of the military. How many hundred times do we hear, "It isn't like the old Corps." Human nature being about the same over the last few thousand years makes it quite safe to assume that this has been a problem since men first served in the military. The problem of morale is not solved entirely by physical changes and non-human considerations. Industry has learned that wages, fatigue, rest periods, free lunches, and illumination are not important things in themselves, and, that these do not have an independent effect on the individual. These things are all carriers of value but they do not form the crux of the problem. So it is with life in the service. Food, wages, clothing, good recreation, etc, are not the all important things in themselves, and, that these things do not have an independent effect on the individual. It has been proven beyond a doubt that the social factors are the major circumstances which hinder or help cooperation within any organization.

Sentiments are not to be sneered at. Let someone suggest that the Marine Corps be dissolved and then try and measure the power of sentiment. As a chaplain I have found that sentiments are important. More people are sentimental about their religion than those who are sold on it intellectually. The accident of one's religious birth determines to the greatest extent as to how one feels about his religion.

What then can be done about this situation within the realm of the military. Certainly the military never wants to coddle a person, yet, if they want to match the new logic of industry they have to awaken to a new age of personal relationships. The military will have to stop excusing their facing up to this problem by such trite overelaboration or over simplifications as "This is the military and things don't work like that in industry" or "we have a good brig to handle that type of individual and do not have to put up with our labor problems." These generalizations will not serve to solve the problem. Those answers are like saying that it will most likely be cold in Iceland this winter or that there will be showers in the tropics next summer. The problem still remains, what to do about it?

You face it. The "word" from your office on its way down is channelled through numerous human situations where it is subjected to sentiments and feelings. The person receiving it does not get it on a *tabla rasa* or a blank mental substance, then proceed to carry out the directive of the squad, platoon, battalion, group, or division as desired. He brings to this situation his interpretation which are a complex of feelings, emotions, desires, sentiments, and attitudes. All orders are elaborated on according to the background which he brings to this specific situation. Like the erratic vending machine, you might put a nickle in but you are never sure what you are going to get out.

We know all groups are highly organized even if they appear to the casual observer as disorganized. It is organized to affirm or negate commands, to carry out or to obstruct a mission. One has to always count on the informal organization of cliques as well as the formal organization of the military unit whether large or small.

WHAT CONCLUSIONS can one bring to this pertinent problem of communication up and down the line? How can the modification of "the word" be kept to a minimum?

First, it must be recognized as being social in nature. The military should make more use of interviews using skilled technicians and counselors as "trouble-shooters" within the level of the social organization. This "trouble-shooting at the in-between levels of the top and bottom will tend to minimize the counter activities of those who modify "the word." There will not be the year around wait for the Inspector General whereby a person can have a good cathartic experience with those who represent the top. When there is a healthy work situation among the formal and informal groups, "the word" tends to be communicated with a minimum of modification.

Professor George Homans of Harvard University sums up these findings in terms of "the miracle of cooperation." This pattern of cooperation involves two things working together:

1. There must be a common end in the actual organization of work in order to get things done.

2. In these working groups, whether they be in industry or whether they be military squads or divisions there must be the associated feeling of satisfaction and social values which comes from the work done. When persons work in wholesome satisfactory situation they get things done and done well. One then finds morale at its top level. This kind of a situation tends less and less to modify "the word" or by recalcitrance to negate the commands which come down from the top level. USMC

New Extension Courses Ready

THE EXTENSION DIVISION, Marine Corps Schools, announced in a recent bulletin that additional extension courses would be made available to members of the Regular Marine Corps, the Organized Reserve, and the Volunteer Marine Corps Reserve during January 1949.

In general, these extension courses will offer instruction parallel to that given in the resident Basic School; the Amphibious Warfare School, Junior Course; and the Amphibious Warfare School, Senior Course at Quantico. Additional courses dealing with special subjects such as Field Artillery and Communications will be offered as they are made ready.

Extension Courses are designed to assist individuals of the regular Marine Corps and Reserve, who for various reasons are unable to attend the appropriate resident schools in Quantico, in furthering or refreshing their military education. Complete extension courses contain an estimated average of between 175 and 200 hours of student effort, and normally should require 18 to 24 months of home study for successful completion.

Certificates of graduation are issued to students who satisfactorily complete extension courses. In the case of officers, the student receives the original certificate, one copy is furnished to Headquarters Marine Corps, and one copy is filed in the records of the Extension Division. Certificates of graduation for enlisted personnel are handled in the same manner, except that an additional copy is furnished the individual's commanding officer to be placed in the student's service record book.

No certificate of graduation is furnished for completion of specialist extension courses or special tactical extension courses. Instead, a letter is furnished the student giving him credit for the work completed; copies of the letter being handled in the same manner as copies of certificates of graduation.

Students correspond directly with the Extension Division, and all instructions, lesson material, etc., are mailed directly to the student. Further information relative to courses offered by the Extension Division may be obtained by writing the Director, Extension Division, Marine Corps Schools, Quantico, Virginia.

The initial subcourses of the following extension courses are now available for issue to eligible applicants:

The **Officers Basic Extension Course** and the **Officers Basic Extension Course—Special Tactical** are available to commissioned officers, warrant officers, and enlisted personnel of the first three pay grades.

The **Amphibious Warfare Extension Course—Junior (Ground)** is available to all ground commissioned and warrant officers who have completed the resident Basic Course or the Officers Basic Extension Course, and to all ground officers of the rank of first lieutenant or above.

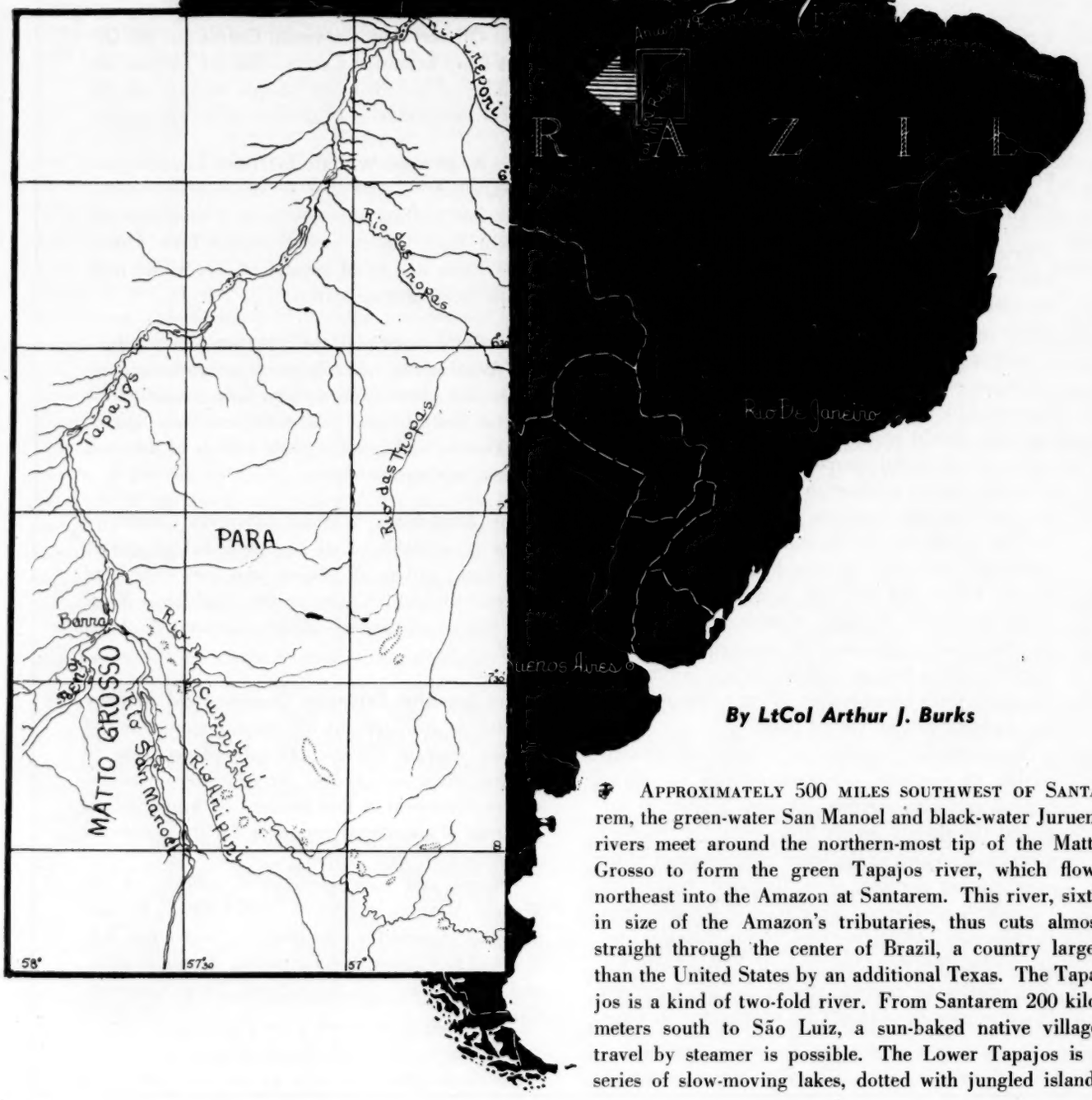
The **Amphibious Warfare Extension Course—Junior (Aviation)** is available to all aviation commissioned and warrant officers who have completed the resident Basic Course or the Officers Basic Extension Course, and to all aviation officers of the rank of first lieutenant or above.

The **Amphibious Warfare Extension Course — Senior** is available to all commissioned officers of field rank, and to all officers who have completed the resident Junior Course or the Amphibious Warfare Extension Course—Junior (Ground or Aviation).

The **Specialist Extension Course—Field Artillery (Basic)** is available to all ground commissioned officers, warrant officers, and enlisted personnel of the first three pay grades. An education in mathematics equivalent to that received by a high school graduate is considered necessary for the successful completion of this course.

Officers and noncommissioned officers of the Women Marines (USMC-W and USMCR-W) are presently eligible for enrollment in Subcourses B-1, B-2, and B-3 (Basic Indoctrination, Administration, and Naval Law) of the Officers Basic Extension Course. USMC

TAPAJOS RIVER VALLEY CENTRAL BRAZIL



By LtCol Arthur J. Burks

APPROXIMATELY 500 MILES SOUTHWEST OF SANTAREM, the green-water San Manoel and black-water Juruena rivers meet around the northern-most tip of the Matto Grosso to form the green Tapajos river, which flows northeast into the Amazon at Santarem. This river, sixth in size of the Amazon's tributaries, thus cuts almost straight through the center of Brazil, a country larger than the United States by an additional Texas. The Tapajos is a kind of two-fold river. From Santarem 200 kilometers south to São Luiz, a sun-baked native village, travel by steamer is possible. The Lower Tapajos is a series of slow-moving lakes, dotted with jungled islands

In the jungles of Brazil the crocodiles aren't as plentiful as one would expect; their tails are edible. The Indians are scarcely polite, but they aren't all headhunters either. Food, snakes, and pestiferous insects are also easily found

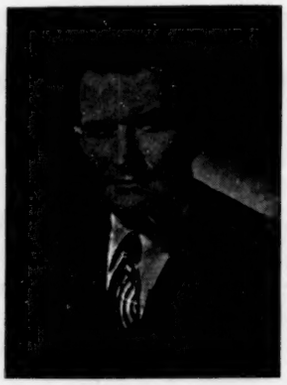
of many shapes and sizes; the Upper Tapajos is a series of tumbling rapids, especially in summer, clear to the Matto Grosso, and motor launches make the journey in from a week to 12 days. One ancient wood-burning steamer makes a monthly trip from Belem to São Luiz. Five launches operate above the Maranão rapids, the most dangerous of all the Tapajos fast water. Legend has it that no exploring group has ever made the trip from source to mouth of the Tapajos, if the Juruena be regarded as the Tapajos—as it should be—south of the hillside village of Barra. A group of Brazilian soldiers, led by a sergeant, tried the trip by *battalone* some years ago, only the sergeant surviving as far as the Maranão, wherein he was drowned.

HENRY FORD opened a rubber plantation on the Lowe Tapajos in 1928, when he founded Fordlandia, 160 kilometers south of Santarem. In 1934, he founded Belterra, 30 kilometers south of Santarem. Fordlandia has 7,500 acres of cultivated rubber, hardwoods, oil nuts, citrus fruits, and runs a sizable herd of cattle and buffalo. Belterra consists of 17,600 acres of cultivated rubber, 2,250,000 young trees, all of which will be in production by 1950. The Ford Plantations were sold to the Brazilian government in 1946 and only one American, the general manager, Charles Townsend, remains on the huge holdings. There is a landing field at Belterra, none at Fordlandia; the Belterra field is large enough for any conceivable use. The river, which is 14 miles wide at Belterra, will accommodate flying boats of any size. During Henry Ford's regime the lower river was dredged as far as Fordlandia, and oceaning-going vessels could dock at that place. The river may be well silted at this writing, the channel shifts often, is about 120 feet deep at Belterra. During the rainy season, when the Tapajos rises anywhere from thirty to fifty feet, steamers can still reach Fordlandia. During the dry season even the old wood-burner heaves the lead, advances cautiously, and seldom travels at night.

Jungles hide the land, mostly low-rolling knolls, on either side and on the islands. The valley rises, during the 500 mile up-river journey from Santarem to the Matto Grosso, only a little over 300 feet. There is an occasional outcropping of sandstone, an occasional cone-shaped hill may be seen, but for the most part the land on either side looks monotonously flat. This can be very misleading, however, for a trip into the woods, on either bank, invariably produces surprises in the shape of steep hills, unsuspected potholes like huge extinct craters, several hundreds of feet deep. Most of the area is little known, even to the people who live on the river and its many tributaries. However, in my experience, there is no "impenetrable" jungle on either bank of the Tapajos, in spite of the "Green Hell" school of exploration. With a guide, and/or a reliable compass, it is easier to travel straight through the jungles than to follow human or animal trails. Either way it is hard going, but not nearly as difficult, except in the rainy season, as many of the areas in the Pacific Islands with which Americans became familiar during the recent war. With a group of armed hikers possessed of a little guts, it is possible to go anywhere and, in a pinch, to live off the country. Explorers have gone into this area and not returned, simply because they have been too few in number, have gone without guides, or have been knocked over by Indians or diseases. Even so, one trip, generally regarded as impossible, from the Xingu River to the Jamachum, the latter a tributary of the Tapajos, was accomplished over 30 years ago by a German woman scientist, Amelia Snittlager, who made the trip in company with Indians. Today the Jamachum is named with awe because it is loosely controlled by the wild Gaiapo Indians. The Jamachum empties into the Tapajos about 15 miles above the Maranão rapids. It is black-water, rapids-filled, and extremely dangerous for any kind of plane, though landings were made on it when Catalinas flew rubber out during the war. The black water hides rocks, and rapids are almost continuous. *Canoas, montarias, battalones, cascas*—all paddled or poled boats of various sizes, the *battalone* being the largest, the *casca* the smallest—make the trip from Pimental, a village above the Maranão from São Luiz, into the *caucho* areas of the Jamachum, in about two months. *Caucho* is a second-grade rubber obtained by cutting down the tree rather than tapping it.

a background articl

Eight hours above Fordlandia is Itaituba, seat of one of the largest *prefeituras* (roughly "county") in Brazil. Itaituba is four hours downstream from São Luiz. South of Itaituba there is only one road in all the thousands of square kilometers of jungles of Central Brazil. That road is 17 kilometers long, and extends around the Maranão rapids from São Luiz to Pimental. It handles freight and passengers between the Upper and Lower Tapajos. South of Pimental the country is somewhat rougher and hills a hundred feet high are occasionally seen. The river is often



Arthur J. Burks joined the Marine Corps on 4 October 1917 in WW I, was ordered to inactive duty as a second lieutenant in 1919, but returned to the Corps as a regular in 1921. After serving at Parris Island, S. C., in the Dominican Republic, and in Haiti, he became aide to Gen Smedley D. Butler at San Diego. In 1928, while serving in China, Lt Burks resigned to devote all his time to writing. The next 14 years saw approximately 1200 of his stories published. When World War II broke out he returned to the Marine Corps as a captain, serving at Parris Island and Cuba, before returning to inactive duty as a lieutenant colonel. He went to Brazil after hearing of an Indian tribe that did not have cancer.

several miles wide, the channel known to a mere handful of launch pilots, and so dotted with islands that the view ahead is always restricted. The river always promises to come to an abrupt end, but then an island, some of them of immense dimensions, is reached, and a way opens around it or through a group of them, and the river goes on without end.

Existing maps of most of the Tapajos, especially south of São Luiz, are quite useless. Aerial navigators have discovered that much of the upper river is about 30 miles away from its proper map location! To my knowledge only one reasonably accurate map of the Upper River, based on countless compass readings and the speed made, both up-river and down, by motor launches, exists. It was made in sections by Frei Caetano, German-Franciscan lay-brother, presently at Fordlandia constructing a church, but reachable at any time through the prelate at Santarem. He has made many trips on the river, checking and correcting his map each trip. However, save where the Jamachum enters the Tapajos and appears to be the continuation of the main stream, it is impossible to get lost on the river. To avoid wasting time on the Jamachum it should be remembered that the Jamachum is black-water, the Tapajos green—and the latter turns sharply west from the mouth of the Jamachum.

Any description of the Tapajos, incidentally, should be carefully read because the fact that it flows north makes map-study a little awkward. In this article we are traveling upstream.

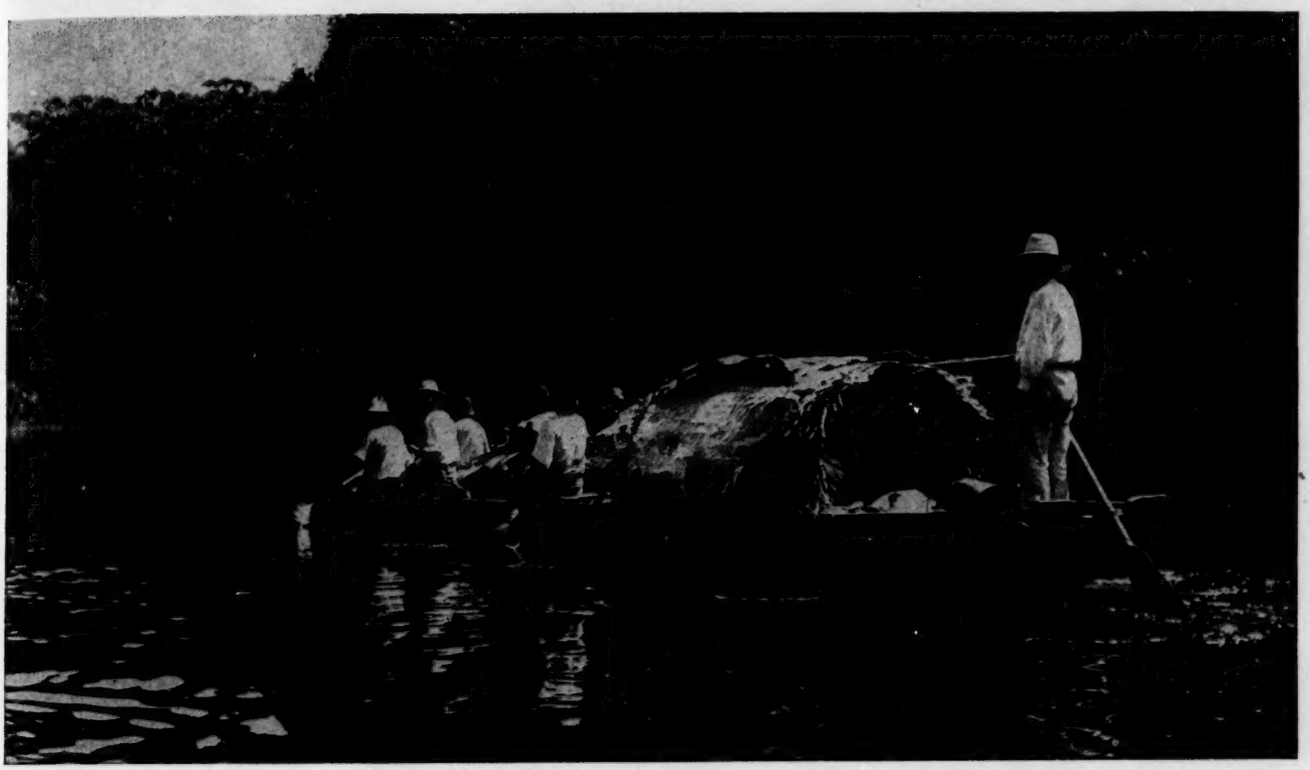
The principal tributaries of the Lower Tapajos are the Cupari, north of Belterra, south of Fordlandia, a black-water stream that leads east, back into swamps, pestholes, storm areas, thick jungles, to a mule trail by which it is possible to enter the valley of the Xingu and so to reach the Amazon far below Santarem, by-passing that city if desired; the Amuri, also north of Fordlandia, but on the west bank of the Tapajos.

The Cupari is important, can be traveled by motor-launches; it provides a route to the coast that is little-known. The mule-trip, or hike, from the headwaters of the Cupari to the nearest tributary of the Xingu, takes five days. The Amuri, while it is a beautiful stream, is relatively unimportant, though it leads to trails by which it is possible to reach the Maues River and Manaos, far above Santarem on the Amazon. All rivers and creeks are important from the standpoint of population, however, for the *caboclos* ("Indian-descended" jungle Brazilians) always build their palmfrond shacks within sight of creek or river. From their shacks rubber trails, *estradas*, lead inland as far as it pays to go daily for rubber; beyond the outer ends of rubber trails is the unknown jungle.

Brazilians and Indians have a unique method of telling the difference between a "river" and a "creek." If a tree on a bank falls into the stream, but does not reach across it, it is a "river."

THE TAPAJOS RIVER splits into many branches to form the Maranão rapids, but becomes, roughly, one stream again above Maranão, south to the mouth of the Jamachum. Above the Maranão are smaller rapids over which the launches must travel. In low water the brawling rapids, the Metuca, just above Bubure on the west bank, and the Mergalão, just west of the mouth of the Jamachum, are navigation problems. Good pilots can ride the whirlpools up the rapids, usually, in launches capable of making only six miles an hour, but sometimes they misjudge and hang on barely submerged rocks, when they have to be roped up if there are enough crew members, or the load portaged. In high water the stream is swifter, but rapids and whirlpools are almost imperceptible. Many of the smaller craft developed in World War II, especially the LCVP, could navigate the entire Upper River, *above* the Maranão, and into the San Manoel as far as Providencia, into the Juruena as far as the village of Entre Rios.

Above Lorena Nova, usually the first night stopping place south of Pimental for the laboring launches, are the rapids of Montanha. The Montanha is a high conical hill set in a gut in surrounding hills, and the Tapajos, in lower water, breaks uproariously about it. In high water it is possible to pass the *montanha* to starboard, in low water it must be circumnavigated. This rapids is dangerous to the uninitiated, and launches have sunk in the deep water into which this fast water pours. This rapids is about three miles long and the water above it is broad, slow, and with many rocks just below the sur-



Three Lions

Boating down the Tapajos River is a hazardous task for the uninitiated. Rocks, many of them below the surface, present navigational problems and only experienced pilots can get around them.

face, so that only an experienced pilot can get through it in low water. The next rapids above *montanha* is the 15 kilometer-long Mangabal, easily a man-killer, for here the river is broken by a vast field of mammoth boulders, some just out of water, some just under. There is a channel, but finding it is a problem that should be left to experienced Brazilians or Indians.

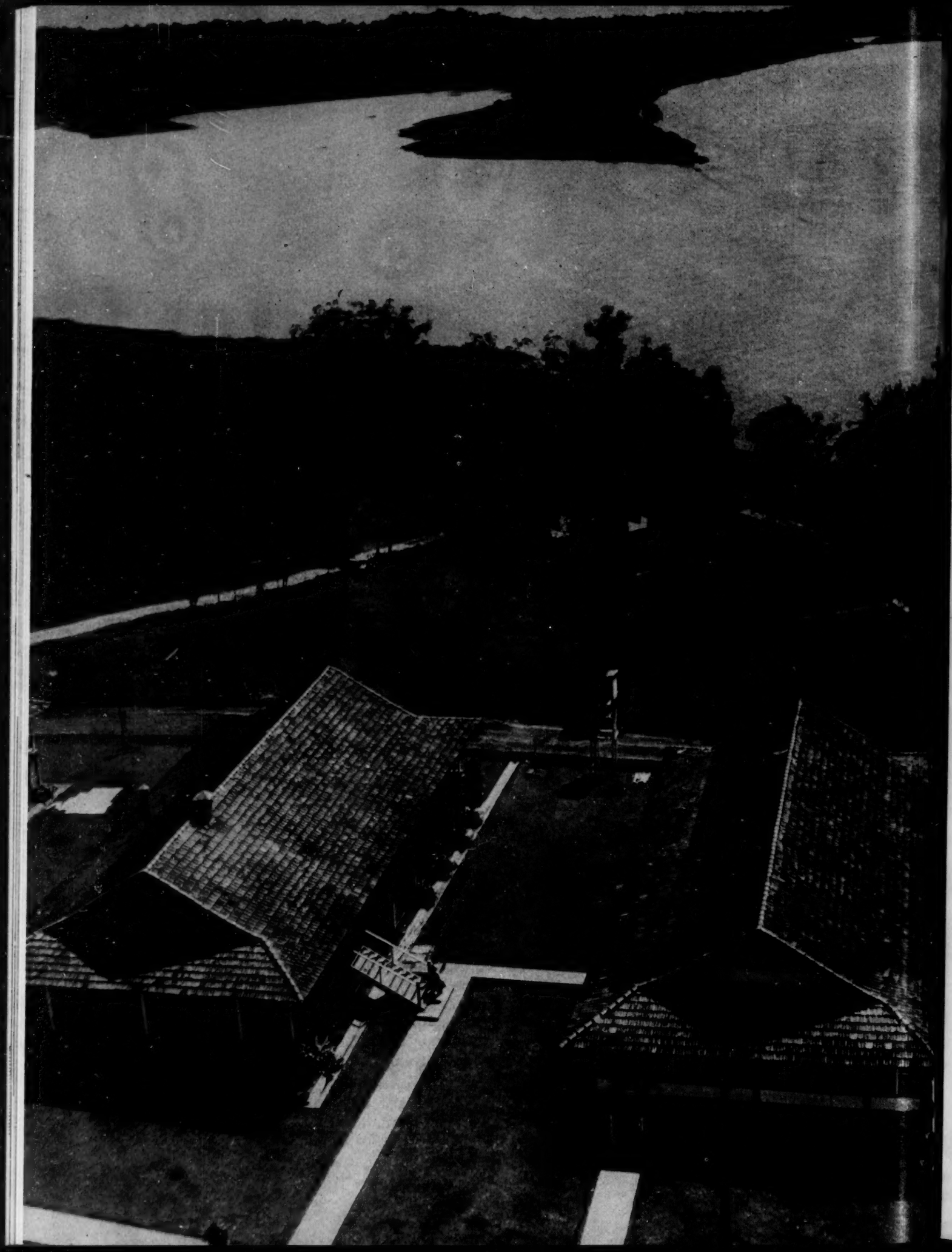
"There is a cemetery near every *cachoeira*," says the jungle Brazilian, and he is right. I have seen several of these cemeteries, in which are buried the Brazilians who drowned in the rapids and were recovered. Many are not recovered. This in spite of the fact that most jungle Brazilians, men, women, children, are fish in the water, and sometimes go through the rapids, swimming, just for the fun of it. Night travel is always out, especially for the inexperienced.

THE NEXT RIVER above the Jamachum, beyond the Mangabal and Mangabalzinha, is the Crepory. It flows out of the southeast, about a third of the way upriver between Pimental and Tapajos' end. Some maps show this river emptying into the Tapajos from the *west!* It is a narrow, still river, rising far back in Indian country; beyond the end of rubber trails, the ends of which are reachable in one day from the Tapajos, the land it drains is unknown. Nor is it likely to be explored for some time to come, for reasons to be mentioned later in a discussion of Tapajos Valley Indians. Such land, however, as has been explored in this area, is as rubber-rich as any in the Amazon Valley. A few creeks empty into the Tapajos from the west. They are important because people, Brazilians and Indians, live on their banks, but most of them rise out of unexplored land, unknown even to the people on the creeks.

The third river to pour into the Tapajos from the east, the das Tropas, is named "for the troops" because, in the 1830s, during a rebellion against the government, the *Cabanagem* troops—reputedly—advanced westward from the headwaters of the Xingu to the das Tropas, came down the das Tropas to the Tapajos and so out to the Amazon. I do not believe it was done, though I believe it could be, if there were any necessity.

There are scattered small villages, clusters of family dwellings, on the west bank of the Tapajos, all the way from Pimental to Barra, at Tapajos' end, and there are many abandoned clusters of palmfrond shacks on the east bank; but almost no Brazilians at all live on the east bank between Pimental, above the Maranão, and the blackwater Cururu, another sizeable river which comes out of the unknown southeast. South of the Cururu a cruise of three or four hours, around either side of the biggest island in the Tapajos, called Island-In-The-Mouth-Of-The-Cururu, is the northernmost point of the Matto Grosso, which can never be mistaken for just another one of the countless islands seen on the long journey upriver.

At this point, where the San Manoel and Juruena form



the Tapajos, three provinces also would meet if so much water did not prevent. Para, Matto Grosso, and Amazonas provinces fill the angles formed by the three rivers —San Manoel, Juruena, and Tapajos. Barra, in Amazonas Province, on the west bank of the Tapajos, is the last "civilized" village of any size. It is the end, the jumping off place. Beyond it, the San Manoel flows out of the southeast, the Juruena out of the southwest. Just south of the mouth of the San Manoel the Anipiri empties into the San Manoel. Navigation on the San Manoel is no problem as far southeast as Providencia, at which place the rapids begin, rapids which are impassable for ordinary means of transportation. A fast day of launch travel on the Juruena—seven miles an hour is fast for any launch on the river known to me—leads to Entre Rios and the first Juruena rapids. Beyond the rapids of both the San Manoel and Juruena rivers live wild Indians, some of whom are cannibals.

THERE ARE STILL some half million of Indians living in Brazil. They are protected by law; it is a crime even to shoot an Indian in self-defense. Many of the two millions of Indians in Bolivia appear to have heard of this, and have entered Brazil, somewhat muddling the anthropological situation. The east bank of the Tapajos, from Pimental to the das Tropas, is now the happy hunting ground of the Gaiapos, who neither swim nor build canoes, and leave no trails in the jungles. They are difficult to get along with. They kill by stealth, with the *borduna*, or war club, a baseball-bat-sized club, of wood so hard it is unbelievable that all are rather skillfully carved, either with bone or stone implements. It must take a Gaiapo months to make such a club, yet when he kills with it he leaves it beside the body of his victim; no one knows why. He sets traps for rubber cutters, usually in the shape of sharp spines that stab them in the bare feet. When they bend to remove them the Gaiapo strikes. When the Gaiapo warrior has killed the man of a family he then attacks his house, kills the women and male children and carries off the young girls. The Gaiapo fears one other Indian, as he doesn't fear even the evil spirits of his woods—the Mundurucu, the "black face."

Until two years ago a few Mundurucus lived in the area between the Crepory and the das Tropas, and Gaiapos gave it all a wide berth. The Mundurucus have been "tame" for almost a century, so Brazilians cut rubber in this rich rubber area without a care in the world. Then the Mundurucus closed ranks, moving south of the das Tropas, to occupy the land between that river and the Cururu. They neglected to inform the *seringueiros*, rubber-cutters, who found it out only after the Gaiapos had used their new war clubs. Now Brazilians live on islands in the Tapajos, just beyond Gaiapo bowshot and some of them risk their necks by following their *estradas* into Indian territory. They risk their lives, but they have to provide for their families. They travel double, one of their number armed with rifle or shotgun, not to drive off Indians, of course, but in case unusual game is found! Weird tales are told of Gaiapos who speak Portuguese, carry rifles, and even have flashlights. Most Indian tales can be taken with a grain of salt, but not warclubs with blood and hair sticking to their business ends.

There are a few Maues Indians on the lower river but they are of little importance, one way or another.

The Mundurucus, however, even though a mere handful, possibly 5,000, of them remain, between the das Tropas and the Cururu, are important. Since time immemorial they have been famed as warriors. Before the church took them in hand they were headhunters, though never cannibals. They were such topnotch warriors that during the rebellion the Brazilian government used them against other Indian tribes, several of which they almost annihilated. They haven't gone to war in 75 years or more, but all other Indians remember, and the mere presence of a "black face" guarantees peace! The Mundurucus are called "black faces" because they tattoo their faces, from hairline to upper lip, a deep dark green, which looks black unless you stand closer to one of them than any other Indian would think of standing. They are little men, five feet seven or less, but fierce even yet if "put upon." With half a dozen Mundurucu warriors an American could travel anywhere, I think, in Central Brazil, even among the Chavantes. In fact the only six foot Mundurucu Indian I ever saw, with the utterly improbable name of Ambrosia, lives at Villa Nova, on the Chacarão (Snoring Waters) rapids, and is sometimes sent into wild Indian territory *alone* when the wild ones become too bold.

The first Mundurucu Indians encountered, aside from Ambrosia, who is an exile from his tribe because he killed some of his best friends with the "evil eye," live at a spot called Maracati after a late Mundurucu chieftain, at the foot of the 15 kilometer-long Capoeira rapids, the last rapids south on the Tapajos. Eastward from Maracati are the scattered *malocas* (villages, usually family living places) of the Mundurucus, to the border of unexplored territory, southeast of Creputia, the roaring first rapids of the Cururu. I say "first" rapids, and there may be no others; nobody knows. Even the Mundurucus refer to the land as "unknown," but it is occupied by the Kuruaia, believed to be Mundurucus who have not yet been tamed.

On the San Manoel and its tributaries live the Apiacas, who were cannibals within the memory of living Apiacas of whom one, a friend of mine, preferred roasted baby's knuckles in his youth. The Apiacas are now stalwart husbandmen, rapidly being absorbed by Brazilians, who are as strong for Apiaca wives as the Apiacas are themselves.

Three Lions

Last outpost of civilization on the Tapajos River is Ford's experimental rubber plantation Fordlandia.

The Apiacas are larger people than the Mundurucus, more regal in appearance, and are excellent farmers. The Mundurucus, Maues, and Apiacas all wear Brazilian clothes, and except for their tattoos look as "Brazilian" as Brazilians do.

The Cajabis are divided into two parts, "good" and "bad." The good half of the tribe is Christians, mingles with Brazilians, intermarries with them, and are good traders and farmers. The bad half tribe goes naked, robs, rapes, and is sometimes suspected of cannibalism. The Cajabis range across northern Matto Grosso, appearing on both the San Manoel and Juruena rivers. The Apiacas stick fairly closely to the San Manoel. All except wild Indians come to Barra to trade their products of field and jungles for tobacco, coffee, pins, needles, shotgun shells, and rifle ammunition.

The Njambikwaras and Baquiris are dwarfish, go naked as do the Gaiapos, and roam northern Matto Grosso, roughly south of the rapids of the San Manoel at Providencia, the rapids of the Juruena at Entre Rios. The Njambikwaras, whom some authorities call the "Juruena Mundurucus," are looters, killers, cannibals, finding young Brazilian girls the most succulent food. No exploration south of a line drawn across the Matto Grosso from Entre Rios to Providencia should disregard the Njambikwaras and Baquiris, who have killed a couple dozen rubber cutters during the past two years, and eaten some of their children. Brazilians are hopeful, however, that the Njambikwaras are becoming interested in "civilization," for the last rubber cutter they killed, and partially ate, they paid for with green corn, left at the door of the shack occupied by their victim and two of his rubber cutting friends who happened to be away that afternoon.

Indians are of little importance to travelers in force, for all of them know the meaning of rifles and shotguns, but small parties must not underestimate them.

TRANSPORTATION in the Tapajos Valley, as everywhere in the huge Amazon Valley, is the greatest of all problems. Ocean-going steamers of British, Danish, American, and other foreign registry, touch at Santarem, gateway and key to the Tapajos Valley because the old town sits right on the clearly visible line where the green water of the Tapajos mingles with the brown water of the Amazon. These foreign steamers go up-Amazon to Manaos and beyond, even to Iquitos, but do not, since Ford pulled out of Brazil, travel up the Tapajos. Ford Plantations has a number of small craft, with docking facilities at Belterra at two ports—Pindobal and Porto Novo, from both of which good dirt roads lead up to Belterra on her flat plateau. Running water, modern plumbing, electric lights, are taken for granted at Belterra, as at Fordlandia where docking facilities are a little better. There was once a narrow gauge railroad at Fordlandia, but now only the rusting materials remain, as well as the remains of a complete sawmill. Numbers of small launches travel constantly between Fordlandia, Belterra, and Santarem. There is no standard launch size, but those I have measured have been about eighteen meters long by four meters wide, good, solid hardwood hulls with cheesebox superstructure. Brazilians load their launches, *all* their boats, to the point where sporting wavelets splash into the boats. No census has been taken of the launches on the Lower Tapajos, but a dozen would about cover, each capable of carrying about 60 people. They shouldn't carry more than 30, but Brazilians always double up. Sailing craft, small sloops, are quite common below Itaituba, but they are usually rowboat-size, equipped with rags of sail, though a few larger ones may sometimes be seen when the fish are running their best. The Lower Tapajos is subject to sudden deadly squalls, so that no experienced outsider would think of venturing on the broad reaches of the river if it is empty of Brazilian sails.

THOUSANDS OF ROWBOATS—though the paddle is the commonest usage—are drawn up on the banks of the Lower Tapajos and its river and creek tributaries. Brazilians below Itaituba manufacture most of these boats, Brazilians who have been boat builders for generations. The best known do thir work on the Amuri river, below Boim.

There are only five launches on the Upper Tapajos. where the motorgodile, a French contrivance, is sometimes very effectively used in the rapids, powering the *battalone.* The motorgodile sits in a movable cradle astern, with a shaft slanting, not down, but well abaft the motor, with a small propeller at the far end. The *motorista* is thus able to maneuver his propeller over rocks which have just scraped the keel of his boat. Some such outfits are canvas-covered, some open. All boats, with the possible exception of the *casca,* which is a hollowed-out log, are constructed of wood so hard that it will not float. Any Tapajos river boat that fills, *sinks*—that's why there are cemeteries near all rapids.

There are thousands of these small boats on the Upper Tapajos, where Brazilians could not live without some sort of transportation. The boats always leak, there is always a gourd with which to bail, and the Brazilian bails every day rather than caulk his boat.

Whoever controls those five launches on the Upper Tapajos, controls the Upper Tapajos and everybody who derives a living from it, especially if that one, at the same time, sold those boats to the Brazilians and is still owed payments on them. As a matter of fact, an American chiefly controls the Upper Tapajos at this writing. He is Robin Hollie McGlohn, President of the Alto Tapajos Company, formerly a flyer for the U. S. Navy and Pan American World Airways. However, this control is based on financial considerations. The Brazilians and tame Indians cut rubber which McGlohn buys; rather, he

Three Lions

Typical Indian home on the shores of an Amazon tributary. There are small scattered villages, clusters of family dwellings, on the west bank of the Tapajos, all the way from Pimental to Barra.

trades for the rubber—coffee, salt, pins, needles, shotgun shells, cloth, fish-hooks, belts, every conceivable thing the jungle dweller could wish for and far more than he needs. McGlohn is the only American in the Alto Tapajos Company, which owns all that transportation, hundreds of thousands of acres of jungle land, and controls the credit of all Brazilians and Indians on the Upper Tapajos. He partially controls the same on the Lower Tapajos, but there he has competition which includes the Ford Plantations. If all those interests were merged, one man could sit in Belem, on Santarem preferably, and dictate every activity on the Tapajos.

What good is this vast area, aside from the fact that it is a knife-slash through the center of Brazil? It is rich in rubber and *caucho,* of which the McGlohn interests, with their best efforts, obtain perhaps less than ten per cent. Some of the best hardwoods, cedars, and soft woods are found all through this valley. *Massaranduba, itauba, sedro, piquia,* produce hardwoods, rather *are* hardwoods which, to name just one use, provide railroad ties that will last a generation or more. *Itauba* is most commonly used in boat building.

As far back as 30 years ago, outside interests looked to the limitless waterpower of Tapajos' rapids. Those rapids remain, and are not always going to go begging. The land, so much of it as is known, can be cleared and turned into thousands of successful small farms. There is some button shell in the river. Bananas, oranges, papayas, alligator pears, watermelons, *mandioca,* Brazil nuts, scores of other nuts and fruits of which I know only the Portuguese names, grow quickly and fruitfully. It is said in Brazil that Hitler once looked to this area for *lebensraum.*

The jungles teem with oil nuts—*curuá, tucumá, jauari, paxiúba, inajá, babassú,* all palm-tree nuts of various sizes, besides which there are the *andiróba* and *piquia* nuts, and literally scores of others, few of which are exploited now, but which one day *must* be because they are needed by the world.

Little is known, and much said, about gold, silver and precious stones in this great area, but this vast valley has had its share of hunters for El Dorado, the Man of Gold. Prospectors deprecate the possibility of gold and diamonds in the Tapajos Valley, *but*—on the east the Tapajos drains exactly the same area, or almost the same, as do the Xingu and the Tocantins, both of which provide plenty of gold and diamonds, often together, to the dis-

comfiture of miners who believe it's bad luck to find gold and diamonds together and unless carefully watched by their bosses, throw the gold away.

Cotton, hardy wheat, corn, myriads of wild fruits, grow or can be cultivated in the valley, though wheat is more or less an unknown quantity. Brazilians and foreigners of experience claim that it is impossible for even one person to live off the country, but I don't believe this—too many people have done it. It can be done if there is necessity. For instance, there are at least a dozen vines which produce clear, cool, reasonably pure, drinking water; but of course one has to know them: *cipo d'agua, cipo macaco, pente de macaco, cipo de fogo* and many more. There are easily a dozen different *cipos d'agua.* The root of the giant *sumaumeira* or cotton-tree, also secretes excellent water.

Limnologists of my acquaintance claim that all river, creek, and lake water in the Amazon Valley, including the Amazon itself, except to a distance of ten kilometers below each city, is safely potable without boiling or other treatment. Doctors, of course, say no. I drank for months straight from such sources, including the muddy Amazon, without *apparent* bad results, but it is not recommended save as an emergency measure.

THE TAPAJOS and its tributaries have scarcely been tested as sources of food fish and sportsman-fishers haven't even discovered it. But some of the food fish reach a thousand pounds in weight, while even the carnivorous *piranha*—of which I know three varieties, the red, grey, and black, the latter being the fightingest—is good food, reaching two and a half feet in length, eight inches through the middle. There are many varieties of fat catfish, the best known being the *surubim.* I once asked a Brazilian cook to tell me the names of food fish in Lago Salgado, on the Cumina, north of the Amazon. She named 37, all she could be bothered to remember while busy cooking supper. The same fish are common in the Tapajos and its tributaries.

I haven't eaten it myself, but alligator tail is edible. Alligators are not nearly as plentiful as adventure books would indicate. In a year and a half in the Tapajos Valley, part of the Amazon Valley, I don't believe I saw a hundred. But I've seen cords of skins, so *somebody* sees them. There is a fresh-water porpoise, but Brazilians do not eat this mammal, say it is hard luck to kill it; it is very plentiful. The manatee is becoming scarce, and provides food that tastes like rich pork—it's another mammal.

Hunters often eat jaguar, ocelot, snake, monkey. I have only tried, just *tried,* monkey. I could have eaten heartily of it if I hadn't known what it was. The jungles jump with monkeys.

There are many wild fruits which are safe to eat—*taperiba, beriba, maracuja peroba, maracuja de rato, carambola, mangoes* (imported, not indigenous), *bacaba* berries, *assai* berries, *genipapo,* dozens and scores of other fruits the names of which matter little, but which the Brazilian guide will point out and share with the traveler.

Deer, tapir, *paca, cotia, capivara*—the last three are huge rats, of which *paca* is the best jungle food I know—wild turkeys, Gallegos doves and turtle doves, many varieties of wild ducks, snipe, pheasants, parrots, macaws (Brazilians eat all members of the parrot family, as do the Indians) and dozens of other kinds of wild game.

Some jungle trees secrete milky latex, some white, some brown or red, that is good food, but since some also secrete poison latex it is well to get exact information from a *caboclo* or Indian.

What are the dangers in the streams and jungles? In the streams drowning of course, or being taken by alligators or *piranhas,* or bitten by poisonous water snakes, of which there are some, mostly of the *jararaca* family.

In the jungles there are poisonous reptiles, the corals, the *jararaca,* the *cananina,* the *cobra de anta,* the *surucucu.* The latter is the aggressive bushmaster. Brazilians, however, go into thick grass barefoot, crossing themselves as their sole precaution against snakebite. They take the stand that there is room enough in the jungles for reptile and man, and that the reptile will get out of the way. It's a habit easy—and sometimes dangerous—to acquire. The *surucucu,* something of a snake when he reaches ten feet or so, is said to hunt man, but I never saw but one, right after my guide shot him apart. Snakes, for my money, are a negligible danger, but antivenin should always be carried. The boas are a different matter; nobody cares for their style of hugging. I never saw one in the wilds.

Jaguars and ocelots will jump a man if cornered or the man is asleep in a hammock.

The greatest dangers in the jungles are water-dug pits covered by Nature with brush and leaves, and the arrow-sharp tips of brush which have been bitten off by deer, tapir, and roaming domestic stock. Slip into a ten-foot pit just big enough to take you, while traveling the jungles alone, and you're done. Fall on one of those dried, ironhard brush spikes and you're likely to be disemboweled.

THERE ARE some 27 varietes of the anopheline mosquito in the Amazon Valley, of which two are almost perfect vectors of malaria. Four tablets of atabrine or metoquina a week will keep the fever down. Everybody sleeps in hammocks, usually with mosquito net attachment. This net is a necessity for the outlander. Occasionally, every ten years they claim, malaria hits the Lower Tapajos, on its west bank especially, and takes off entire families at a time.

Native Indian boy of the Tapajos River area. There are still some one-half million Indians in Brazil.

In the woods, many of those busy day-flying, noisy mosquitoes are *aedes egypti, stegomyia,* vectors of yellow fever. Brazil as a whole has yellowjack very well under control now, and the usual yellow fever shots seem protection enough against everything but the biting and buzzing of those mosquitoes.

There are many culicine mosquitoes in the Tapajos Valley also, some of which vector filiariasis, probably, though I do not believe a careful study has been made of this. I have seen cases in hospitals both in Belem and Santarem, of elephantasias—Brazilian jungle people, usually women. The mosquitoes may be the most dangerous, but the most hellish of all insects, which drive a man mad, are listed hereafter:

First in nuisance value is the *borrachudo,* a tiny blood-sucking fly. This day-operating creature is bred in fast water, is therefore profusely encountered in the rapids above São Luiz, and wherever else there are rapids. This fly, which transmits no diseases so far as is known, works on the knuckles, between the knuckles, and in the palms of the hands, so subtly that one seldom knows it has imbibed its blood meal until it has gone. Then, the spots where it has bitten swell up, become marble hard, while the black speck in the midst of the lump which is some sort of coagulant, becomes visible. Then, the spots begin to itch. One hand will itch a man crazy, and scratching does no good, in fact aggravates the condition. The skin has become so hard it can't be scratched open. A rough towel is some relief, but after it has been applied, the itching is worse. Only one hand? Yes. Then the itching stops and starts on the other hand. This itching must be the worst known to man. It especially enjoys waking one out of a sound sleep to bite his lips and wonder if he can get through the itching again. It stops, starts, shifts, alternates—it's completely maddening. Brazilians seem to be accustomed to it, having known it all their lives on the upper river, but the outlander never does.

Next in nuisance value is the *pium,* also a tiny blood-sucking fly, also found near fast water, which works on every exposed part, especially liking the face, neck and ankles. This biting hurts, like cuts made by infinitesimal razor blades, and the bitten parts swell up out of all proportion. When one encounters *borrachudos* and *piums* together, one has one's own three-ring circus.

The *metuca* is a larger fly, which delights in dive-bombing, cutting into the face with a kind of carom shot, getting away while you bleed and agonize over the pain.

Maruins, tatuci, are also bloodsucking flies, but not as numerous on the river as *borrachudos* and *piums. Maruins* are more like mosquitoes than flies, being the only species mentioned here which operates at night, and eases gently through mosquito-net mesh.

Hippolates pallipes reputedly transmits yaws, but this tiny fly seems to be found only in certain areas, is seldom seen on the Tapajos. But around people who have the disease the careful person will make sure that even the smallest wounds are bandaged, for this fly moves from one open wound to another, thus carrying yaws, which might be called non-venereal syphilis.

Mucuins are tiny red bugs, akin to chiggers, which can't be seen by the naked eye unless they are moving. You get them all over you every time you enter the jungles or walk through a patch of grass. They burrow under the skin, whereupon they become visible and start their own brand of itching. They have to be dug out of the wounds. A body well soaped, the soap allowed to dry, is some protection against them. When one has *mucuins, borrachudos* and *piums* together. . . .!

Caripato are wood ticks, usually found in *campos,* or natural clearings. I have not noticed them in the jungles.

The insect pests can be endured if there is need, and the Tapajos river valley is well worth consideration from many angles. In low water the river's banks are fringed by white or brown "sugar" beaches, which make the Tapajos one of the most beautiful rivers in South America. During the rainy season all rivers and creeks overflow their banks, blotting out beaches, traveling unknown miles deep into the jungles. During the rainy season small boats can travel vast distances right in the jungles, entirely invisible from the air. Foot travel is most difficult then, but a through-the-jungles cruise is an experience never to be forgotten. USMC

Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Developing the M1 . . .

HATCHER'S BOOK OF THE GARAND—MajGen Julian S. Hatcher, USA, Ret, 292 pages, illustrated. Washington: Infantry Journal Press. $6.00

The rifle we in the Marine Corps know as the U. S. Rifle Caliber .30 M1 or more familiarly as the M1 is perhaps more widely known to the citizenry at large as the Garand for John C. Garand of Springfield Armory, its inventor. This then is a book about the M1, the history of its development, its mechanical features, and an evaluation of it as a weapon.

Divided into three parts—History, Operation, and The Garand in Action, Gen Hatcher's book in part one recounts early developments in semiautomatic rifles prior to World War I and the trials and tribulations of development from 1917 to 1936 when the Garand was finally adopted as the M1. Parts two and three present a complete mechanical and technical manual to the M1 and an evaluation and critique of it as a combat weapon in World War II and as a match rifle for post war competition.

Of interest to Marines are the stories of the Johnson rifle controversy and the Marine Corps tests of 1940 at San Diego. The former is reported fairly and fully, to this reviewer's knowledge, for the first time. The tests, conducted with the M1903 Springfield opposed to the Garand, Johnson and two variations of the Winchester rifle, have become almost a legend with Marine shooters and armorers. Here is the complete story taking up a whole chapter—the guns, the testers, the tests, the results, and the conclusions. The '03, of course, was proved the most accurate and reliable under adverse conditions. The Garand was proved the best of the semiautomatics and all achieved more hits per minute than the '03. This test ended the controversy once and for all and the Marine Corps began to acquire the M1.

Gen Hatcher gives a complete description of the M1 with specifications and details which are not readily obtainable elsewhere if at all. Chapters on sights, functioning, operation, care and cleaning, malfunctions and stoppages, and detailed stripping complete the technical portion of the book.

An evaluation of the performance of the M1 during World War II is dealt with by authoritative quotations by certain Marine and Army officers. All are enthusiastic in their praise of the M1 as a combat weapon with the exception of one deficiency; the method of loading which was universally condemned as awkward and unsuited for combat use.

Looking to the resumption of the National Rifle Matches with the M1 as the arm to be fired by servicemen and civilians alike, Gen Hatcher examines the possibilities of the M1 as a match rifle. According to Garand, he foresaw the eventual use of his rifle as a target arm. With this in mind, as well as its combat requirements, he tried to design it to eliminate the bugs which plague many service rifles when used in target competition. This of course had to be a compromise with the requirements of the semiautomatic feature. However, the inherent qualities of accuracy were there and like any rifle were brought out by proper "tuning." It remained for Marine Corps armorers to accomplish this latter task and they receive full credit from Gen Hatcher for their fine job. How well a job they have done is evidenced by the scores fired in post war Marine Corps competition which are beginning to approach those fired by the '03.

Here is a book for the shooter, the gun crank, and the armorer. With civilian rifle clubs receiving M1s from the Army for practice and use in future National Matches this book should have an appeal to the civilian shooter as it will tell him all about his new rifle and how to make it shoot in competition. It will be of special interest to marines interested or engaged in the technical or shooting side of small arms for the above reasons plus the story of the important part played by the Marine Corps in testing the M1, using it in combat, and developing it as a match rifle.

Profusely illustrated, mostly with excellent photographs, printed on high grade paper, and absolutely authoritative, this book is one which any shooter or gun lover would be proud to add to his library or reference shelf. The $6.00 price is steep but the number of illustrations, quailty of materials, and present day high cost of living cannot be denied.

Gen Hatcher is eminently qualified to write on this subject as he was an ordnance officer closely connected with the development of semiautomatic rifles from 1917 on as well as being an outstanding rifle and pistol com-

petitor both in this country and abroad and generally acknowledged to be America's top authority on small arms. FBN

Complexities of War . . .

SCIENTISTS AGAINST TIME — James Phinney Baxter 3rd, 473 pages, illustrated. Boston: Little, Brown and Company. $5.00

This is the story of the American scientists who were organized under the National Defense Research Committee (NDRC), later to become the Office of Scientific Research and Development (OSRD). As the wartime head of those agencies, Dr Vannevar Bush, points out in the foreword, "This is the story of the development of weapons of war, but it is also the story of an advance in the whole complex of human relations in a free society, and the latter is of the greater significance."

Author Baxter, President of Williams College, was asked by Dr Bush to undertake the task of compiling the history of the NDRC and the OSRD as early as 1943. At that time he was Deputy Director of the Office of Strategic Services (OSS). The result is a highly informative and entertaining account based on official records of the Army, Navy, and OSRD. Since publication of this book (1946) the author has served on the Board of Advisors of the Historical Division of the Army Special Staff which is engaged in the undertaking of writing a very detailed account of the battles of World War II; he also has been on the Board of Consultants of the National War College.

The reader will be introduced to the book with a description of the organization established by executive action in June of 1940 to correlate, aid, and conduct "research for the creation and improvement of instrumentalities, methods, and materials of warfare." Individual chapters then outline the major problems and their solutions in the fields of submarine warfare, naval warfare on and above the surface, air and land warfare. A separate chapter is devoted to the peculiar problems of amphibious warfare which is of particular interest to marines.

The major portion of *Scientists Against Time* is concerned with more detailed discussions of the new developments mentioned only briefly in the general chapters referred to above. Here is the epic of radar from its beginning to end with highlights of its applications in ships and aircraft and on the ground. Radar countermeasures, window and carpet, are explained. Here also is the account of ordnance and armament: hedgehogs, mousetraps, rockets, mines, guided bombs and the VT fuze to name a few. Vehicles, chemical and medicines come in for their share. And to complete the picture there is a recapitulation of the Manhattan Project which

provided the climactic weapon of all scientific endeavor, the atom bomb.

Readers of Gen Eisenhower's memoirs, *Crusade in Europe,* will recall the Allied apprehension over the German V-1 and V-2 missiles and the reflections concerning the probable outcome of the cross channel invasion had these new weapons been used several months earlier. *Scientists Against Time* outlines the Allied action to counter these weapons from the receipt of secret intelligence in the autumn of 1943 to the cessation of guided missile bombardment. The credit for successful defense against the V-1 is attributed to three weapons developed by the NDRC and manufactured in the United States: the SCR-584 radar, the M-9 electrical predictor, and the radio proximity fuze. The only defense against the V-2 was capture of the launching areas.

From Kwajalein on the DUKW became a commonplace vehicle. Its uses are well known to all marines but few know of the trials and exasperations faced by the men behind its development. It took an unscheduled emergency four days before the official demonstration to gain publicity for this workhorse. This rescue of a Coast Guard crew in a gale and the following demonstration caused a complete reversal in thinking and were responsible for the impression that the DUKW was foolproof and could be operated under any conditions by personnel with little training. These misconceptions resulted in some unsuccessful initial employment of the vehicles and necessitated a training program that eventually became world wide.

The reader will probably be surprised to find that the little yellow pill that always seemed plentiful in the Pacific was the result of an enemy enterprise. Atabrine was a trade name given to the drug by the Germans; the official name in the United States is quinacrine. Many readers will find out that the yellow skin pigmentation they acquired was due to the fact that atabrine has a strong affinity for tissue proteins; they will also be informed as to why the tablets were generally given out at meal time.

Despite enormous expenditures by all combatant nations on the development of poison gas this weapon was not used in World War II. The answer to this riddle is discussed at length in a separate chapter. If you have a theory, check with Baxter in *Scientists Against Time.*

To prevent a compilation such as this from becoming a recital of equipment by "Mark" and "Mod" or a gouge similar to those used to pass the naval ordnance and gunnery promotion exams of a few years ago required a learned and gifted author, historian, and artist. James Phinney Baxter 3rd is such a man. The narrative is lively and lucid. It is the type of book that is hard to put down once you have picked it up. One of its outstanding features is the frequent and repeated use of tactical and operational illustrations to point out *why* a certain development was needed or *how, where* and *when* it was employed. The author is very impartial in his selection of examples and the Marine Corps and its amphibious operations in the Pacific are often referred to.

KBMcC

Regeneration of a Nation . . .

MacARTHUR'S JAPAN—Russell Brines. New York: Lippincott. 315 pages. $3.50

MacArthur's Japan is a clear and absorbing description of the effects of a major military defeat upon an extraordinary people. It covers the entire spectrum of Japanese problems during the reconstruction period, commencing with the surrender ceremony aboard the *Missouri* and proceeding through the political, military and economic revolution which has taken place in Japan during the ensuing three years.

It is of passing interest to note that the book is not responsive to its title. The expression, *MacArthur's Japan* indicates strongly that the burden of the volume should be a sympathetic recital of the influence exerted by Gen MacArthur himself on post-war developments in the Japanese islands. Actually, the book rarely attempts to emphasize the contribution of MacArthur, presenting him in a reasonable and credible perspective, and crediting not him alone but the American system itself for the bulk of the success achieved during the occupation.

The author departs from this approach on one occasion—and with complete propriety—when he describes Gen MacArthur's aggressive and inflexible determination to insure that the occupation would be fundamentally an American undertaking, stressing his vigorous and at the same time, clever activities which resulted in the complete subordination of Russian influence in the formulation of occupation policy.

Mr Brines, calling on extensive personal experience, gives a clear picture of the many unprecedented problems facing the Japanese nation. His discussion of the humanization of the emperor, for example, extends far beyond a simple account of the fundamental change in status of the Mikado, and gives the reader a clear insight into the character of a people who will accept their leader as superhuman for ten centuries and then obediently and upon the simple word of a conqueror, recognize him as a fallible, human equal.

The many volumes written during the war on the character of the Japanese soldier assume far greater realism in the light of Mr Brines' account of these same Bushido-inflamed soldiers in time of peace. They are, he points out, individuals of very ordinary character, in the main having accepted their defeat philosophically, turning to a wide variety of normal pursuits, and uniting only in the conviction that insofar as war crimes were concerned, their only crime was defeat.

Following an evaluation of the current Japanese eco-

nomic situation, Mr Brines launches upon an investigation of the political condition existing in the nation and the possible future portents. He points out that with control of Manchuria and North Korea, plus a not inconsiderable influence in North China, the Soviets are in possession of many of the resources upon which Japan has heretofore depended for her industrial effort. This economic influence, he contends, will have a powerful effect on the politics of a future Japan, particularly when accompanied by the efforts of a vigorous local Communist Party. The Occupation Forces have to date maintained the upper hand over the local Communist influence mainly by the aggressive efforts of Gen MacArthur himself, although the extension of Soviet propaganda in Japan is a powerful and growing influence.

As a conclusion Mr Brines develops a logical thesis that Japan can again become a useful power in the world but that its chances of so doing without intelligent and extensive American participation are small—that it devolves upon the United States to maintain a vigorous though benevolent and enlightened leadership to insure the retention of this vital area within the western sphere of influence. VLK

Gen George H. Thomas . . .

ROCK OF CHICKAMAUGA — Freeman Cleaves. 328 pages, illustrated, maps, indexed. Norman: University of Oklahoma Press. $3.75

The hero of Chickamauga was stubborn, able, thorough, uninspired, and sometimes pedestrian. His biography by Freeman Cleaves exhibits many of these same characteristics. Only rarely does Cleaves' Thomas come alive and excite the sympathy his biographer seems to desire for him. This is not entirely the author's fault for the diaries, letters, dispatches, and post mortems which have made the Civil War era a biographers' gold mine, are missing in the case of George H. Thomas. Never communicative, the stout, Virginia-born Yankee general became increasingly taciturn as his career progressed, and he died too soon — in 1870, aged 54 — to write his memoirs, that inevitable act of all great soldiers.

Therefore, his biographer must depend upon secondary sources and collateral references for most of his material, eked out here and there by Thomas' sparse personal correspondence, brief dispatches, and occasional addresses. The pickings are particularly slim with regards to Thomas' youthful, pre-West Point days. This is partly because his family in Southhampton County, Virginia, never forgave him for espousing the Union cause. After learning of his decision to fight for the North, his spinster sisters turned his picture to the wall. As late as 1890 the 80-year-old Judith would answer a would-be biographer's request with a prim endorsement: ". . . I can only inform you that he was as all other boys are who

are well born and well reared."

After his appointment to West Point in 1836 the development of his military life, at least, can be followed with some degree of accuracy and detail. One of his roommates in his plebe year was wiry, red-headed William "Cump" Sherman. After graduating 12th in his class (well below Sherman and just above Richard S. Ewell, also a Virginian), Thomas began a career which followed the usual pattern of campaigning in Florida, Mexico, and against the Indians, interspersed with garrison duty. During this period he served with, or at least met, nearly all the military figures who would become great or near great in the then-impending rebellion. His preference was for the cavalry but this branch became proportionally more unsuitable as his weight increased. Finally, on the eve of the Civil War, a railway injury to his spine further reduced his gait and gave him his nickname Old Slow Trot.

Apparently possessed of more than the professional soldier's traditional ignorance of politics, the Civil War seems to have come upon him as a complete surprise. Then a major in the regular U.S. Army, he was offered a Confederate commission which he declined. There was some doubts in the Union service as to the extent of his loyalty but he was sent to Carlisle Barracks to help whip the volunteer Army of Pennsylvania into shape. Promoted to colonel, he had a brigade in Gen Robert Patterson's command which was sent into Virginia to prevent Gen Joseph E. Johnston from joining Gen Beauregard who in turn was to be destroyed by a Union army sallying out of Washington under Gen McDowell. Patterson fumbled the interception, was sharply handled by Cols Thomas J. (later "Stonewall") Jackson and J.E.B. Stuart, and this led to the confused trouncing of McDowell at the first battle of Manassas.

Whatever the errors of the campaign were, they were not Thomas' fault; he had handled his brigade well and, somewhat tardily, was made a brigadier of volunteers.

As the unlucky summer of 1861 ended, he was sent along with Sherman and Don Carlos Buell to the Department of the Cumberland, Gen Robert Anderson commanding, with headquarters at Louisville.

Thomas' 1st Division fought its first important fight at Mill Springs, Kentucky, on 19 January 1862 against Gen Zollicoffer's light-traveling brigade. Zollicoffer was killed, his force defeated, and Thomas' victory shone like a beacon through the bleak Union winter.

At the greater, more costly victory at Shiloh, Thomas' division was in reserve but was not committed. Next came Halleck's clumsy victory at Corinth and the inconclusive fight at Perryville.

Command of the Army of the Cumberland was changing rapidly during these campaigns, from Anderson to Buell to Rosecrans. None quite had the combination of complete success. Thomas, now a corps commander, had

his chance to command but refused it, stirring up the old doubts as to his complete loyalty. The next hard fighting was the indecisive Stone's River. The Union Army now pushed on to Chickamauga.

Here was Thomas' greatest day. With whole right and center of the Union Army turned, Thomas stood solidly with his Corps on the left. The Army of the Cumberland now withdrew to Chattanooga, Rosecrans was relieved, and Thomas given his command. At the same time the Armies of the Ohio, Tennessee, and Cumberland were united in the Military Division of the Mississippi under Grant, so that, in effect, Thomas still was not in possession of an independent field army.

Grant came to Chattanooga to command personally its defenses. In the battle that followed Thomas was to attack the Confederates frontally on Missionary Ridge while Hooker and Sherman took them on the flanks. Sherman and Hooker bogged down and Thomas' diversion became the main (and successful) effort.

While Thomas refitted, a task in which he thoroughly excelled, Sherman was sent on a sweep through Mississippi.

Grant now became general-in-chief, Sherman was given command of the combined Armies of Cumberland, Ohio, and Tennessee, and the great march to Atlanta and the sea was begun. Now also began the series of disagreements between the one-time West Point roommates, Sherman and Thomas. Thomas did not see the strategic importance of splitting the South and thought the still-intact Confederate army (first under Johnston, then Hood) was the legitimate target of the campaign. Sherman's (and Grant's) chief criticism of Thomas was that he was too ponderous and too slow for a successful pursuit. (Sherman, who traveled with a worn wall tent and a couple of files for his official family, called Thomas' headquarters camp with its 11 Sibley tents, wagons, carefully layed-out street, *Thomastown.*)

After Atlanta fell Thomas was detached to occupy Hood while Sherman proceeded to Savannah and then up through the Carolinas.

Thomas' Reconstruction record was as good or better than that of the other Union generals, but his last years were marked by an increasing bitterness toward Grant, Sherman, Sheridan, and Meade whom he regarded as receiving an unfair share of the laurels.

Like most men Thomas did not realize his own limitations. He was cautious, deliberate, painstaking, watchful, and careful. Probably no other Union commander had such a fatherly regard for the comfort and morale of his troops. *But,* he lacked the aggressive flair that is needed in the truly great field commander. His own philosophy of battle is best summed up in his own words to a subordinate:

"Keep everything in order. The fate of a battle may turn on a buckle or a linch pin." EHS

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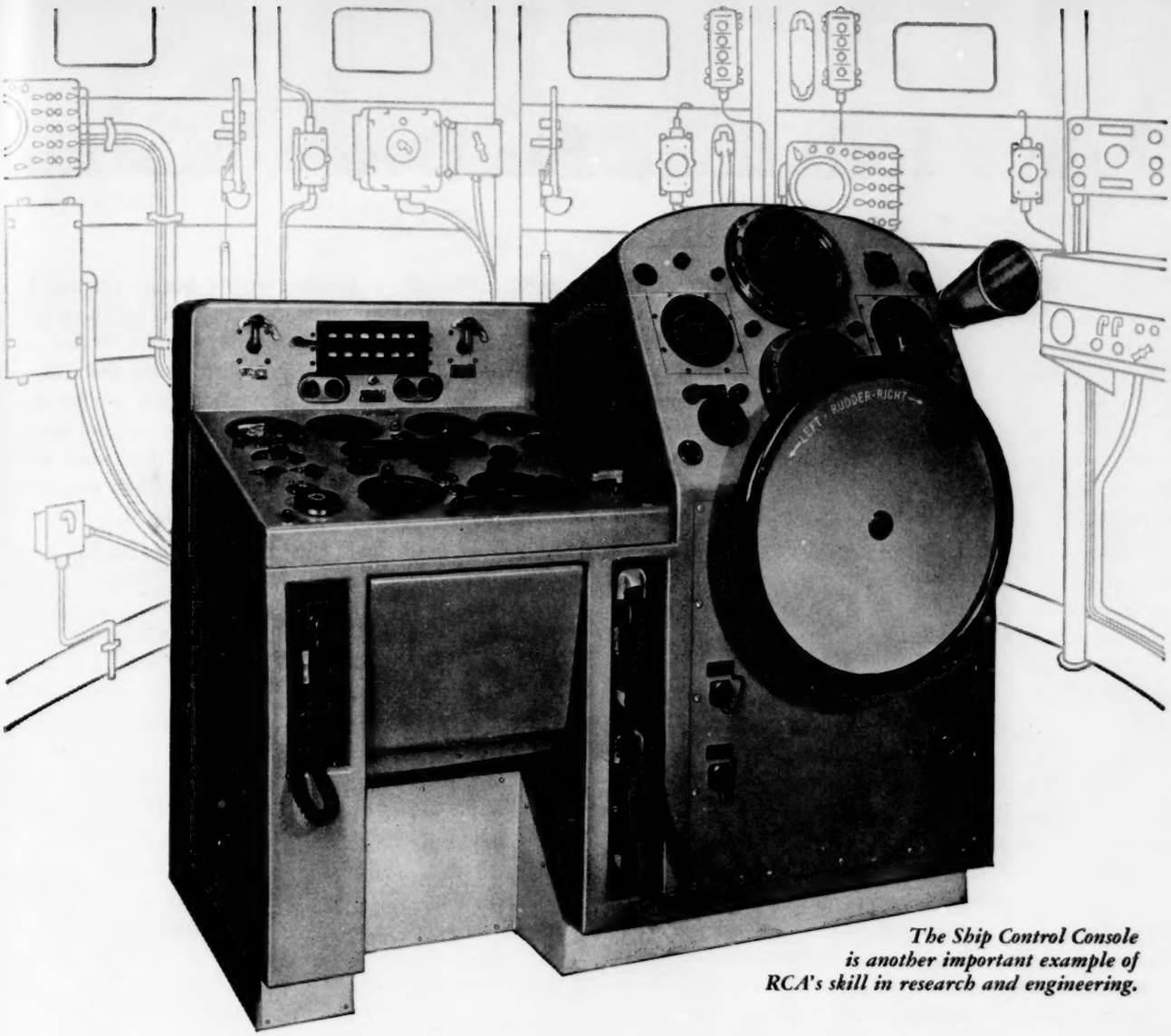

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Public Relations for Every Marine

DULL INDEED IS THE MARINE WHO DOES NOT SENSE the genuine friendship, respect, admiration, and love that the average citizen has for his Marine Corps. It is the responsibility of every marine to remain cognizant of the fact that he plays a definite role in cementing this friendship. Military organizations, like athletic teams, are frequently judged by present performances. The records of history are overburdened with accounts of the remains of those who chose to rest on past laurels.

The following six point program may enable the Marine Corps to gain new friends and justify the great confidences of old friendships. The task is not one for a few, it requires the efforts of all marines.

1. All officers and enlisted men on active duty must be encouraged through public relations courses, literature, posters, special lectures and disciplinary measures, if necessary, to become active audio-visual salesmen for the Corps. There are few citizens indeed who are not favorably disposed toward organizations that train young men in the ideals of Americanism. They encourage organizations that represent vigorous manhood. It is equally true, however, that impressions, good or bad, are easily made and changed. Thus, every marine on liberty whose hair is such that he resembles the cartoonist conception of a violin player, every sloppy and improperly dressed marine, every trouble making marine becomes a liability to the corps. Two drunken marines were pointed out to me facetiously as "Two of your supermen." One wonders why marines in need of hair cuts and without proper dress are permitted off the post in the first place. "Every man a salesman" might well be a motto for the Corps.

2. Over fourteen million veterans in America feel that they made some direct contribution toward winning the war. Their families and friends think likewise. In view of this fact, it would prove very beneficial for the corps to tone down the, "we won the war philosophy" and play up the idea that all tasks assigned the Corps were attacked vigorously and pursued as hard and long as humanly possible.

3. The American people know that the marine's lot in time of war is not an easy one. They know that he was denied many privileges. Articles and books by retired, inactive, or ex-marines revealing actual or assumed war time hardships become mighty boring reading for many veterans whose plights in numerous instances were much more arduous. The point to remember is that marines are admired for their ability to do the difficult without complaining. This reputation must not be jeopardized by anyone. In fact, all budding authors among ex-marines should be made to realize that when their efforts do not make for a stronger Corps, their avoidance of the subject would be greatly appreciated.

4. This point may appear trivial, but it has great significance. All marines, particularly officers, should answer all their mail. Although this task at times will be more boring than arduous, it will probably never be difficult. The best salesmen for the Corps are those who served during the past war. Officers who received letters from men or families of men formerly under their command do not help the Corps by ignoring such letters. It does little good to answer letters from congressmen within 48 hours, if letters from civilians are treated in a lighter vein.

5. An attempt should be made to have all marines and the public, in general, appreciate the role played by the corps in time of peace as well as in time of war. For young marines to feel that they alone are unexcelled in all phases of warfare may help *esprit de corps,* but it may make for their appearing ridiculous in the eyes of their thinking non-marine brethern. We might well take a lesson from the Air Force in the philosophy of stressing only that which can be done well by an organization. The Marine Corps' glory rests with amphibious operations. Stick to that and stress it.

6. It is quite natural for young boys to be hero worshipers. It should be very flattering to every marine to know that in many instances he is the object of this adoration which in turn often leads to emulation. Anyone whose character or personality is such that he cannot nor will not play this role is not fully worthy of being a marine.

These points obviously are not the whole answer. They may, however, enable the corps to strengthen old friendships and gain some new ones. Let's keep folks liking the corps by showing that we, too, are proud of being a part of it. Let's all be salesmen for the corps from here on in.

LWJ